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THE RISE
OF A UNIVERSITY
IN TWO VOLUMES



I
THE LATER DAYS OF OLD
COLUMBIA COLLEGE

THE RISE OF A UNIVERSITY

I
THE LATER DAYS OF OLD
COLUMBIA COLLEGE

From the Annual Reports of FREDERICK
A. P. BARNARD, *President of Columbia*
College, 1864-1889 & Edited by WILLIAM
F. RUSSELL, *Dean of Teachers College,*
Columbia University & With an Introduction
by NICHOLAS MURRAY BUTLER &



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MAY GOD ALMIGHTY GRANT THAT THIS COLLEGE,
HAPPILY FOUNDED, MAY EVER BE ENRICHED WITH
HIS BLESSING; THAT IT MAY BE INCREASED AND
FLOURISH, AND BE CARRIED ON TO ITS ENTIRE PER-
FECTION, TO THE GLORY OF HIS NAME, AND THE
ADORNMENT OF HIS TRUE RELIGION AND GOOD LIT-
ERATURE, AND TO THE GREATEST ADVANTAGE OF
THE PUBLIC WEAL, TO ALL POSTERITIES
FOREVERMORE. *Amen.*

— PRAYER OF PRESIDENT JOHNSON AT
THE LAYING OF THE CORNERSTONE
OF KING'S COLLEGE, AUGUST 23, 1756

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INTRODUCTION

PRESIDENT BARNARD was in office from 1864 to 1889 as tenth President of Columbia College in the City of New York. His annual reports, from which the selections now printed are made, marked an epoch in the history of higher education in the United States. President Barnard set a new example in making his annual reports to the Trustees on the state of the College the vehicle for scholarly and wise interpretations of many different college problems and happenings. Time and again in these reports President Barnard struck a new note of insight and of progress, and as the years passed his spirit became younger rather than older.

His was a very extraordinary career and his life is well worth careful study and reflection today.* Born in 1809 in the little village of Sheffield in southwestern Massachusetts, whose only link with the larger world was the daily mail wagon which passed through it in going from Albany on the west to Hartford on the east, he passed his active life at Hartford, at New Haven, in New York, in Alabama, in Mississippi, and in Washington, returning to New York in 1865 to serve as President of Columbia College for a quarter century, until his death in 1889. His ancestry was of the best that New England had to offer, and his formal education at Saratoga, at Stockbridge Academy, and at Yale College, where he was graduated with the Class of 1828, was as good as the times afforded. His mind was much too eager to be confined within the limits of an old-fashioned curriculum, and he was quickly studying modern European languages, church history, and common law. For a short time he was a tutor in Yale College and for a like short time an instructor in the New York Institution for the Instruction of the Deaf and Dumb, his own deafness, which was hereditary in origin, having already begun. From 1838 to 1854, he was the most active force in the life of the University of Ala-

* John Fulton, *Memoirs of Frederick A. P. Barnard*. New York: Columbia University Press, 1896. 485 pp.

bama, first as professor of mathematics and natural philosophy, and afterwards as professor of chemistry and natural history. He then passed to a professorship in the newly established University of Mississippi and quickly became president of that institution, which post he held until the oncoming of the Civil War compelled his resignation. A few troubled years were then passed by Dr. Barnard in the office of the United States Coast Survey at Washington, D. C., and there he remained until chosen to succeed Charles King as President of Columbia College in 1864.

When he came to this distinguished post, Dr. Barnard was fifty-five years of age and had established an enviable nation-wide reputation for intellectual power and progressive thinking. Ordinarily, it is not wise to attempt to transplant, at that time of life, a human being, however able or however accomplished, from one environment and form of activity to another wholly different; but President Barnard was certainly an exception to this rule. He threw himself into the tasks of his new office with greatest vigor, and not only Columbia College but the whole city of New York immediately began to feel the force and vitality of his personality and his temperament. Among the new visions which President Barnard had during his quarter century of service as administrative head of Columbia College were: the elective system of undergraduate study and the enriching of the undergraduate curriculum; the reform of the examination system; the emphasis which should be placed upon the study of modern European languages; the building of a university organization after the fashion of those of continental Europe upon the foundation of the undergraduate college; the provision of opportunities for the higher education of women, equal in all respects to those provided for men, this to be accomplished either through co-instruction of young men and young women in the same institution or by the establishment of separate colleges for women; the study of education as a science and the development of a plan for the professional training of teachers which should take its place side by side with plans already existing for the professional training of lawyers and physi-

cians; and finally, the larger service of college and university to the general public which has since found expression in University Extension, in Home Study, and in various other forms of carrying the fruits of contemporary scholarship to great companies of eager men and women who are no longer formal students at any institution.

President Barnard's enthusiasm for his ideas and his ideals and his persistence in their advocacy, won him constant admiration and high regard even from many who were in opposition to much that he was trying to do. Time and again in these annual reports and in public addresses he challenged the existing educational order in ways and in words which aroused great enthusiasm.

It so happens that not a few of the topics which President Barnard so clearly and so wisely discussed a half century and more ago are still uppermost in the attention of the colleges of the land. His contributions to their understanding and his interpretations of them are as fresh and as powerful today as they were when written. No one who wishes fully to grasp the character of the major problems of the modern college will fail to read and to reflect upon President Barnard's discussions. These gain new power and persuasiveness when one sees all the fruit that his labors have borne in the later history of the Columbia College which he knew in a generation that is past.

NICHOLAS MURRAY BUTLER

COLUMBIA UNIVERSITY
IN THE CITY OF NEW YORK

October 3, 1936

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PART ONE
PROBLEMS OF THE AMERICAN COLLEGE

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PREPARATION FOR COLLEGE

MAY 20, 1878

THE examinations for admission to college for the ensuing year commence on Wednesday, the fifth of June. These examinations, which, fifteen years ago, were completed within less than two days, have been gradually growing more and more laborious, until for some years past they have occupied an entire week, so that it has recently been found impossible to announce the results complete until after Commencement. The resolutions of the Trustees in regard to examinations of candidates for free tuition will have the effect to render the examinations still more protracted. Hitherto the object of the examination has been to ascertain whether the proficiency of the applicant is sufficient to justify his admission, without attempting to attach to his several performances a numerical value. The same will continue to be the case hereafter with the ordinary applicant. But since the privilege of free tuition is hereafter to be granted only to such as manifest a certain superiority of attainment, it will be necessary for the examiners to weigh the merit of the papers presented by these much more carefully than heretofore.

The question therefore comes up anew, whether some plan cannot be contrived for diminishing the oppressiveness of this annually recurring burden, while still securing as effectually as at present a satisfactory test of the proficiency of the ordinary applicants for admission. The question has been already raised heretofore, and it was to some extent discussed in the annual report of the undersigned for the year 1875. The suggestion was then made, and by many members of the Board was favorably regarded, that, instead of a single set examination occupying but a few hours or a few days, there should be substituted a probationary trial of one or two months, at the close of which only such students should be retained on the roll and allowed to matriculate as exhibit a proficiency in all branches, expressed by a

certain previously fixed numerical grade; it being at the same time understood that none shall be admitted to such probation who do not bring a certificate from their instructors that they have faithfully pursued all the studies and read all the books prescribed by the College as qualifications for the collegiate course, and that they are, in the opinion of such instructors, well prepared to enter upon that course.

Several very weighty considerations favor the adoption of this plan, and some objections have been urged against it. In the mind of the undersigned the arguments in favor greatly preponderate, and the objections appear to be without any very substantial foundation.

It may be premised in the first place that the feasibility of substituting a probationary trial for an initiatory examination results from the fact that the preparatory studies and the collegiate studies are parts of one and the same continuous course, the division between the colleges and the preparatory schools being one of convenience only, subject to change with the development of educational systems, and one which has actually undergone very material changes within the present century. In the early history of universities it did not exist at all, those institutions having undertaken to give instruction in even the most elementary branches of knowledge. The question whether a learner in a preparatory school is fit to enter upon the studies of the college course is therefore precisely analogous to the question whether he is fit to be advanced from one grade to another within the school itself; or whether, after his admission to college, he is fit, at the close of each academic year, to be promoted to the class above. Should he be so promoted without being fit, his deficiency necessarily betrays itself at once. This consideration sufficiently distinguishes the case in hand from that in which evidences of general culture are exacted from candidates for admission to professional schools, such as the Schools of Law and Medicine. In these cases, test examinations are indispensable, since, however important the possession of this pre-

liminary culture may be to the ultimate success of the professional student, the studies upon which he proposes to enter are in no sense a continuation of those which have previously occupied him, and they afford no direct test of the fidelity with which he has pursued them.

A probationary trial of a candidate for admission to college is therefore in fact nothing more than a protracted examination. It has the advantage over an examination of an hour or a day, in the respect that it ascertains certainly what the latter in many cases quite fails to ascertain; it ascertains, that is to say, the real proficiency of the individual under examination, and, along with this, something of hardly less importance, his mental characteristics and his aptness for improvement.

It is further in favor of the plan under consideration that it removes all ground for claiming, on behalf of the unsuccessful, that the results do not fairly represent what, under less embarrassing circumstances, they are capable of doing, or for pleading that their errors or their shortcomings are owing to momentary forgetfulness or confusion of thought arising from the novelty of the situation or the apprehension of failure. It is no unusual thing for the friends of the unfortunate, their teachers even, who often accompany them and seek, by the encouragement which their presence affords, to lighten the severity of the ordeal, to insist that these youths are perfectly familiar with all the matters of which the examination makes them seem to be ignorant, and to beg that in spite of their unsatisfactory performances they may still be received on the faith of such assurances. And when these petitions are found to be unavailing, it happens almost as frequently that the same persons ask, on behalf of the unsuccessful applicant, the privilege of a probationary trial of a few weeks or a few months, stipulating that in case of his failure to maintain a creditable standing he shall be withdrawn without a murmur. The fact that such propositions are made to us sufficiently shows that, in the common sense of mankind, a probationary trial is regarded as furnishing a much more satisfactory

test of the fitness of a candidate to enter upon a given course of study than any examination of a few hours' duration can possibly be.

In connection with this subject, it is a consideration not wholly undeserving of attention that the entrance examination as at present conducted is a very severe trial to the applicant for admission. This was indeed always the case, even when the exercise was commenced and completed within a single day. None of us, I presume, have forgotten our own experience in this matter. But the case is much more serious at present. The trial is of a twofold character. Physically, the task which it imposes, and the long-continued confinement which it exacts, are extremely exhausting; but, mentally, the strain on the sensibilities which attends an anxious uncertainty extending through many days is more painful still; and when this protracted anxiety is ended at length, as in many cases it must be, in disappointment, the disheartening effect is liable to make itself prejudicially felt in all the future career of those who are subject to it. Of course, if these evils and this danger are necessary and unavoidable, all that we can do is to deplore their necessity. They are necessary just in so far as the entrance examination is a necessity; they are removable to the extent to which the objects of such an examination can be equally accomplished otherwise, and this seems to be possible by means of the plan here under consideration.

Among the objections to this plan which have been suggested, or which may be conceived, are the following:

1. It may be conjectured that, by the abolition of the entrance examination, we shall encourage some individuals to present themselves who would not dare to encounter the formidable test which examination imposes, and that the presence of such individuals in a class may tend to depress the general standard of scholarship. This objection disregards the feature of the plan which constitutes its true merit, which is that it is directly designed and calculated to detect and exclude this very class. Supposing it to be properly enforced, its effect must be to raise

instead of depressing the standard of scholarship; for it is notorious that the existing system by no means after all excludes every imperfectly prepared candidate, and that cases still occur in which individuals secure a footing in college whom it becomes necessary subsequently to drop. In fact, let it be once clearly understood that the system is to be inflexibly enforced, and it will have the effect rather to repel than to attract such as are so far conscious of their unfitness for a collegiate course that they would shrink from a searching examination.

2. But it may be objected secondly that the system will not be inflexibly enforced. It has in fact been said, in the discussions which have taken place concerning it among College officers, that Faculties will find the obligation to exclude the deficient at the close of the period of probation a duty too ungracious to be firmly discharged; so that the plan, instead of answering its intended purpose of sifting the material, will really result in retaining permanently the chaff along with the wheat. To this it may be replied that the plan is not in the slightest degree dependent for its successful execution upon the feelings or the sympathies of the members of the Faculty; nor is it liable to be in any manner affected by their firmness or their weakness. The right of the probationer to matriculate is determined by the record he makes; and this record is made up of details the ultimate result of which it is impossible for the instructors to foresee in a manner so definite as to bias their judgment or to lead them to lean unduly to the side of mercy. When the record is made up, the law is self-executing. It definitely draws the line between those who are to be received and those who are to be excluded. The duty of announcing and enforcing this result devolves upon but a single officer, and that is the President; so that the danger which is apprehended from the soft-heartedness of the other members of the Faculty is imaginary.

It is true that the Board of the College may be liable to appeals from the disappointed for relief from the operation of the law after it has taken effect. They are no less exposed, under the

present system, to similar appeals. But they are not likely to be moved by these solicitations, because to make a precedent of yielding would be practically to abolish the system and thwart the purpose of the Trustees in establishing it. If, nevertheless, there should be supposed to be a serious danger of such a result, it would be easy to prevent it by a provision restraining the Faculty from interfering with the regular operation of the law.

It has been suggested as another objection to the plan proposed that it would be less acceptable to the teachers of the preparatory schools than the test examination at present employed. This may be true of some; it is not certainly known to be so of all; but if it were universally true, the fact seems to be one of very little consequence to the present argument. It is true that when a candidate who brings his teacher's certificate that he is well prepared is found to be deficient, the fact necessarily reflects some discredit on the teacher, as to his discernment at least, if not as to his candor; and it is also true that such a failure, occurring after a two months' trial, gives to the fault of the teacher greater conspicuousness than it would otherwise have. It is intelligible, therefore, that teachers may not be pleased with the plan under consideration, and yet that the plan may be a desirable one for the very reasons which make it unpleasing to them. Its effect must certainly be to render them more cautious in granting certificates of proficiency than they are at present, so that the probability is that, in case of the adoption of this plan, the number of candidates for admission who present themselves imperfectly prepared will be diminished, instead of being, as seems to have been the apprehension of some, increased. If this inference is correct, then we are justified in saying that the adoption of the plan will affect beneficially the schools, as well as the College, by forcing the former to adopt a higher standard of attainment, and to employ greater thoroughness in their methods, and by securing to the latter a better class of candidates for the higher course.

The two objections here considered are all, so far as the information of the undersigned extends, which have hitherto been suggested by others, and no additional ones have occurred to himself. Of course, if the plan should be adopted, it would not supersede the necessity of holding entrance examinations for all who present themselves as candidates for free tuition; but it would so reduce the labor of holding the examinations as to make it practicable to dispose of them within the week before Commencement.

As those who would enter on probation would not be allowed to matriculate until the close of the probationary period, some modification of the existing provisions of the statutes might be required in regard to the payment of their fees. Should a probation of two months be required, an entrance fee should be exacted of one-fourth or one-fifth of the regular fee for the year, the remainder to be paid at the close of the probationary period. Should the term be one month, half this amount would suffice.

The plan here considered must not be confounded with one which it somewhat resembles, already, with some differences of detail, in operation in some of the colleges of the country — and which, particularly as practiced in the University of Michigan, has recently been a subject of public discussion and criticism — according to which an applicant from certain designated preparatory schools is admitted on certificate without examination. In Michigan this privilege is extended only to schools within the state, and to such schools as shall have been visited on request by a committee of the Faculty of the University, who shall have made report “that the school is taught by competent instructors, and is furnishing a good preparation for any one or more of the regular courses of the University”; and it is moreover confined to such graduates of the school as “present to the President, within three months after their graduation, the diploma of their School Board, certifying that they have sustained their examinations in the studies prescribed for admission” to the university course which they wish to pursue. At the beginning of the pres-

ent academic year, students were thus received in the university above named from ten different schools. No period of probation after admission is required, but the applicant is received at once to full matriculation. The objection which has been made to this is that it surrenders to the schools the power to decide what shall constitute a suitable preparation for the college course, and thus tends to sink the college to the uncertain level of the schools. The check upon this tendency which is imposed by the provision that the privilege shall be granted only upon condition that the school shall have submitted itself within the year to visitation by a committee of the college Faculty, and shall have been favorably reported on, is claimed to afford only an inadequate security. But however that may be, it is not the plan here proposed.

The rule adopted at Dartmouth College is somewhat different. The system of visitation is not there employed, but

students from such fitting schools as have a regular and thorough course of preparation for college of at least three years, are admitted without examination on the certificate of their respective Principals that they have completed the course of the Senior [school] year, and have regularly graduated; and that in addition to the proper moral qualifications, they have mastered the entire requisites for admission or their equivalents as set forth in the [college] catalogue.

The students so admitted are regarded as probationary, for the first three months; and "any who during that time are found unfit to go on with the class will be dropped." This plan resembles that which has been considered above, with the exceptions that it prescribes no definite test of what shall constitute "fitness to go on with the class," and that it applies only to the candidates for admission who come from particular schools. With the first and more important of these defects corrected, it is an example already in actual practice of what we have been discussing as a project.

Some alternative schemes for diminishing the burden of the periodical entrance examinations have been proposed, which are not undeserving of consideration. One of these, which is said

to find favor with some of the teachers of New York, is to allow applicants to present themselves in successive years for partial examination. Thus, in one year they may come up for Latin, in the next for Greek, and in the next again for mathematics and the English studies. A little consideration will show, however, that this would afford no relief, if the examinations should continue to be confined as at present to one particular period of the year. The number of applicants remains the same, as well as the work to be done with each — it is the distribution of this work in time which only is changed. But if the principle is admitted that a candidate may fulfill his requisitions by piecemeal, and long in advance of his ultimate admission, there is no reason why there should not be several entrance examinations distributed at intervals through the year, one, for instance, at the close of the Christmas holidays, another simultaneously with the intermediate examination of the classes in February, another at Easter, another at Commencement, and another at the resumption of the regular exercises in the fall. This is in accordance with the usage of several of the colleges at Oxford, in which entrance examinations are held as often as three or four times a year, although these examinations are complete and not partial.*

The objections to partial examinations are two. Supposing a candidate to have satisfactorily acquitted himself in one subject — say in Latin — at his first appearance, and to come up for Greek in the following year, the danger is that he will have given himself so exclusively to this latter subject as to have become rusty in the first; so that while his performance in Greek

* Between the colleges of Oxford and our own, however, there is this difference, that, as the students there are not classified as with us, the amount of requisition for entrance is invariable at whatever period of the year the candidate presents himself, and the student on admission may commence residence in the term immediately following — the terms being four annually.

By an amendment in the last catalogue of Harvard University it appears that that institution will hereafter, on request, examine applicants upon this plan. The examinations which in the present discussion are described by the term *partial* are there called *preliminary*. Two such partial or preliminary examinations will not be allowed at Harvard during the same year.

may be admirable, he would if reëxamined in Latin be sure to fail.*

The other objection is that students who have no serious intention to enter our College at all may come up for partial examination, with a view of testing the probability of their success in some other institution, thus imposing upon us a profitless labor. That this is not an entirely imaginary possibility is proved by the fact that instances have occurred in which individuals have passed our entire examination and have passed it successfully, and subsequently, after receiving their certificates of admission, have proceeded immediately to other colleges and made use of those certificates as evidences of their proficiency. Such examples of bad faith, it is true, have been rare; but the temptation to their occurrence would be increased were the examination not to be for immediate admission, and were there nothing to indicate publicly the nature of the result.

A few of our larger colleges which draw their attendance from a wide extent of country have adopted a plan which combines the advantages, to the applicants for admission, of economy, and, to the examiners at the college, of partial relief, by instituting local entrance examinations at distant points, as at Cincinnati or Chicago. As the circumstances of our situation prevent us from offering accommodations for residence at the College to students from a distance, such a plan is without value to us. With very rare exceptions, and at present with hardly a single one, our undergraduate students are resident in New York or within a distance from the city so convenient that the ordinary public conveyances afford the means of daily transportation to and fro.

The Universities of Oxford and Cambridge, in England, employ a method which would be also practicable for us, which consists in holding examinations in the tributary schools themselves, by examiners sent from the university. This practice

* Harvard University aims to avoid this disadvantage by requesting that *all* the Latin or *all* the Greek shall not be offered at once.

seems to have been an incidental feature, not originally contemplated, in a scheme of much larger comprehensiveness, undertaken for the purpose of bringing the influence of the universities to bear upon the entire system of secondary education throughout the kingdom. The nature of this scheme may be briefly described as follows: A Board is formed, composed of members appointed in equal numbers by the Universities of Oxford and Cambridge respectively, entitled "The Oxford and Cambridge Schools' Examination Board," whose business it is "to hold examinations of schools and parts of schools" in any part of England, "on the application of the Head Master or Governing Body." Arrangements are made in each case to suit the convenience of the particular school which is to be examined, and the expenses attending the examination are borne by the school.*

It is evident that if a school of any pretensions fails to court examination, the presumption must be against it; and it is equally evident that no school can well afford to submit itself to examination, unless the results are likely to be creditable. There is no need to insist upon the powerful influence which a system like this must exert upon the schools of England, in improving their methods and in elevating the standard of attainment among their pupils.

As a part of this system of school examinations, it has been found practicable to institute, at several of the larger public schools, special examinations of individuals for certificates entitling their holders to admission to most of the colleges of either university. These examinations usually occur in June, in July, and at Christmas.

Any boy who is under education at the school at which the examination is held, or who, being under education at another school, applies through his master to the Board, is admitted as a candidate;

* The results of these examinations are widely published in the educational journals which are the organs of the Board, the names and grades in each department of study of the pupils who distinguish themselves being given in full.

in either case two months' notice has to be given, and a fee of two pounds sterling paid.

The University of Oxford extends this privilege also to boys who have left school before the holding of the examination.

The vicinity of our College to the schools which furnish the larger number of our students would make a plan of this description practicable here; but inasmuch as the terms of the schools are adjusted to those of the colleges, and as their pupils are usually ready for examination only at the close of the term, the school examinations would all occur simultaneously, and could not well be managed by a single board. Moreover, at the present time, and with our present limited academic staff, a board of visiting examiners could not be organized at all, at least to act in term time, unless it should be composed of persons not officers of the College. The reason of this is that we are now very much underofficered. We are holding exercises, nominally recitations, in which from forty to seventy students attend at once upon a single instructor; so that it is impossible to call on any individual to perform in class oftener than about once in three successive exercises — which is as much as to say, in some instances once a week, and in others once a fortnight. This state of things is a consequence of the considerable growth of the College within the last five years, and of the lack of space afforded by the present buildings. The recent action of the Trustees has promised to provide for the speedy removal of this cause of embarrassment, and when this result shall have been attained, it will become possible, by the appointment of additional tutors, to arrange for the examination of candidates for admission from such schools in the city of New York as may so adjust their course of instruction as to meet the convenience of the College, at the schools themselves. But though this mode of proceeding may thus become feasible, it is doubtful if it would be attended with any great advantage to us in the way of relieving the oppressiveness of the regular entrance examination, for the reason that the applicants for admission to our College come to us singly or by

twos and threes from a great variety of quarters, and very few schools send us a large number at once.

Still, however more or less desirable for the purpose here considered this system of school visitation may be, it appears to the undersigned that there are other and more important reasons why it ought to be adopted and made a permanent part of our scheme of operations. There is no reason why the colleges of the United States should not exercise over the schools of secondary grade in our country the same stimulating and elevating influence which the British universities are seen to be exercising over the corresponding class of schools in England. It is very certain that the teachers of New York City would very willingly throw open their schools to committees of examination from Columbia College. The occasional visits of the officers of our Faculty to these schools never fail to elicit from those in charge of them expressions of manifest gratification, and of a cordial wish that such visits may be repeated. And when, as sometimes happens, the visitor assumes for the moment the part of a volunteer examiner, the gratification of the teacher extends to the pupils also, and they exhibit an evident pride in showing the stranger what they are capable of doing.

So soon as our corps of instructors shall have been reinforced by the additions to its members of which the need is at present so seriously felt, we may arrange, if we please, a system of periodical visitation of all the principal schools of secondary education in the city and the adjacent country, for the purpose of testing the proficiency of their pupils and the thoroughness of their methods; and by giving publicity to the results of these examinations, we may awaken in them a spirit of emulation which cannot fail to promote sensibly the efficiency of all.

The College, however, will itself derive a much more important advantage from this measure by keeping itself more constantly and conspicuously before the public as a great educational power, than it can do while its operations are confined wholly within its own walls. The truth of this remark is evident

in the observed effect of similar measures adopted by some others of our leading institutions of learning. The University of Michigan has added materially to her strength by her system of school visitation; and the pretension (very just, perhaps) of Harvard University to stand at the head of the higher education of the American continent has derived its plausibility in no small degree, in the eyes of the public, from the fact that that institution, in imitation of Oxford and Cambridge, has undertaken to hold periodical examinations in classical studies in the principal cities of the United States, for women. This is probably but the beginning of a system of measures of similar character on the part of that institution, which is hereafter to be gradually developed, until the local examinations of Harvard University shall be as comprehensive as those of the British universities by which such examinations were first instituted.

It is impossible to overrate the influence of measures like this in the impressions they produce upon the public mind as to the character and standing of the institution by which they are inaugurated. If they do not constitute in themselves a tacit assumption of superiority, and of a right to give law to the educational methods of the country, their successful prosecution in the absence of competition certainly secures from the public a general recognition of a legitimate title, on the part of their originators, to the possession of such prerogatives, and secures to the institution from which they emanate the undisputed hegemony among its peers. It is only the few which are sufficiently strong financially to engage in such undertakings. Those which are so fortunate as to possess this ability owe it as well to themselves as to the public to let their power be felt. Columbia is one of this small number. Nothing is needed but a judicious application of the means at her command to enable her to take her place in the foremost rank of the agencies which are hereafter to give direction to the entire current of educational effort in this country.*

* Report for 1877-78, pp. 16-27.

JUNE 6, 1881

At each recurring examination of applicants for admission to college, a wide inequality makes itself apparent in the thoroughness of preparation of different candidates, and evidence is also manifest of singular want of uniformity as to the methods of instruction pursued by different teachers. While in some cases it is clear that the learner has been trained to habits of critical exactness, so that his attainment, though it may be inadequate, is sound and substantial so far as it goes, in others there is displayed a vagueness of conception and confusion of thought which testify to an utter lack of intelligent guidance on the part of the teacher. These facts indicate a defect in the American system of higher education by which it fails to secure unity of method between the more elementary and the more advanced portions of the course.

The evolution of the intellectual faculties is a process which, in the absence of the artificial aids afforded by schools, goes on spontaneously. The word education, in its usual acceptance, is applied only to those methods of controlling, stimulating, and directing the manner of this evolution which sound philosophy suggests and which the experience of generations has approved. But there is no doubt that a mind, abandoned to itself and cut off from all the salutary influences which scholastic culture is capable of exerting, will develop itself after a fashion under the guidance of nature alone; and circumstances may be easily imagined in which such development may result in great strength and equal balance of the powers. Minds of such spontaneous growth will suffer mainly from deficiency of knowledge; but history furnishes examples enough of individuals who, without systematic education or artificial culture, have risen from the lowest ranks in society to be leaders of men.

But the process of the natural development of the mental powers is a continuous process. It is incapable of being divided by definite lines into distinct stages, as elementary, secondary,

and superior. It is impossible to say, for instance, that the period of infancy extends so far, the period of juvenility so much farther, and that beyond this is the period of maturing intellect. These stages merge insensibly into each other, and the whole constitutes together one uninterrupted growth. The process of artificial education should conform itself to this. From beginning to end, it should form one continuous system, governed everywhere by the same principles, and subject everywhere, if possible, to the same superintending intelligence.

But this is precisely what, in the actual state of our educational system, it is not. It is true that, in the earlier stages of education, an effort is made to recognize the principle by means of a series of graded schools, subject to a common supervision, and conducted according to a common plan; but at the point where the preparatory course joins the collegiate, there is an abrupt transition and change of regimen, and the learner is often obliged to unlearn old habits and adapt himself to new. Moreover, the schools in which boys pursue the studies which are technically called preparatory are many of them private and independent, and they are not controlled by the regulations to which the schools of secondary education directed by the state are made to conform. It follows that, while nearly all the young men of our country who enter upon a collegiate course enter at the same time upon a new educational regimen, the kind of change to which they are thus subject is by no means the same to all; and that the difficulties which the instructors in the higher course have to encounter and overcome are not the same for each individual learner. This fact is embarrassing to teacher and learner alike.

In the early history of university education this difficulty did not exist. The mediaeval universities perfectly recognized the truth that the training of the human intellect could not with propriety be conducted by instrumentalities acting successively and inharmoniously, and they accordingly assumed the direction of the entire course even in its most elementary parts. It is true

that, at that early period, the subjects of human knowledge professedly taught were much less various than at present, so that, in charging themselves with the task of teaching such rudiments of learning as orthography, arithmetic, and the first principles of grammar, those institutions did not assume an intolerable burden. But as the field of knowledge progressively expanded, and the number of subjects to be taught began to grow unwieldy, separate schools were established, still under the same general supervision, to impart to the learner those simpler matters of information which form rather the implements than the substance of education, and which rather serve to prepare the student to engage in those studies which really try the mental powers, than to afford such exercise themselves.

Thus preparatory schools were not originally an independent growth, but they constituted substantially a department of the general system of university instruction, having a separate form only for convenience.

It follows logically that the true remedy for the disadvantageous state of things in which we find ourselves would be for our College to extend anew, as it did formerly, its supervision over the preparatory course, as well as over that pursued in the College itself. By doing this, we shall put ourselves right historically as well as logically. We shall also conform our policy to that which governs in a large number of American collegiate institutions, although most of those which employ it commit the capital error of bringing preparatory and collegiate students together into a single body upon the same ground, where, in as much as, in general, the former class far outnumber the latter, the effect is derogatory to the dignity of the institution, giving it the aspect of a school of comparatively low grade. Others have adopted the more judicious plan of establishing schools apart from the college, but under the direction of college officers, thus securing the practice of methods identical with those used in the college itself, and making possible the transfer of an indi-

vidual pupil from school to college with scarcely a consciousness on his part of change and without violence to his mental habits. This plan was for many years in operation in Columbia College. It was discontinued so late as 1864; but the recollections which remain of it among the officers of the College who had an opportunity to observe it in its influence upon the preparation of candidates for admission and upon scholarship in college are such as to make them regret its abandonment.

Nor was the importance of this School, as having been during the nearly forty years of its existence one of the most valuable of the instrumentalities of our educational system, less highly appreciated by the Trustees. The evidence of this appreciation may be found abundantly scattered through the minutes of their proceedings. It appears, for example, that, on the second of October, 1855, a resolution was adopted providing for the appointment of a committee charged with the duty of making an exhaustive inquiry into the state of the institution, with an examination into the history of its administration in all departments, the possible defects in its statutes, and the means of increasing its educational efficiency; and in this resolution the Grammar School was specified by name as one of the subjects to which the inquiries of the committee should extend. At a later date, viz., July 7, 1856, as if to emphasize this instruction, another resolution was adopted directing the attention of the committee more especially to this part of their business, as follows:

Resolved, That the Committee on the Course of Instruction consider the course of instruction proper to be pursued in the Grammar School as a part of the system of education to be adopted by the institution, and report upon the same with the same particularity as upon other branches of the subject committed to them.

This resolution is a distinct enunciation of the conviction of the Trustees that the course of instruction commonly called preparatory is an integral part of a proper system of liberal education, and that, as such, it ought to be subject to the careful

supervision of the same directing authority which controls the more advanced part of the course.

The report of the committee itself, which was presented on the sixth day of December, 1858, and ordered to be printed, spoke of the Grammar School in the following terms:

It is believed that the importance of an efficient Grammar School, to be under proper regulation and supervision by officers of the College, under such a system for its government and support as shall always secure the most thorough training for its pupils, cannot be overestimated. To attain such training for his son in other schools, a parent must incur a large annual expense, beyond the means of many who would desire the advantage of a collegiate education for their sons. The Grammar School is of very great value to meet this want, and as furnishing the most manifest source of supply to the College of students adequately prepared at entrance. The Rector of the School recommends no measure for its improvement and support; and under these circumstances the committee are of opinion that it is inexpedient for them to do more than to submit his communication to the consideration of the Trustees.

That is to say, the Grammar School was in so satisfactory a condition that it required nothing to be done to improve its efficiency, while its importance as an educational auxiliary to the College was so great that, in the view of the committee, it could not be overestimated. The statement or communication of the rector of the School, referred to in the foregoing extract, contains a number of particulars interesting in themselves, and interesting in their bearings on the question of the expediency of reviving the School. He says, for instance, that at the date of his paper, March, 1858, the number of pupils in the Grammar School was seventy-five, of whom twenty-six were preparing to enter college at the commencement of the next academic year; but that probably the number actually so entering will be at least thirty. He says that the numbers who have so entered during the five preceding years have ranged from fifteen to twenty annually. It should be borne in mind that the average number of matriculates in the College during these five years hardly ex-

ceeded one hundred and forty. He adds that the numbers sent in 1857, amounting only to sixteen, would have been greater, had not the Trustees seen fit to establish a branch grammar school in the upper part of the city [the minutes throw no light upon this], the more convenient access to which drew off many who would otherwise have been pupils of the parent school.

The rector seems to think that the School would have exceeded two hundred, had a little more active encouragement been shown it by the Trustees, and had they manifested a somewhat livelier interest in its welfare. He says its claims and even its existence have been almost ignored, and that, as a consequence of this neglect, a report had gained ground that it was to be discontinued. It is the prevalence of this report to which he ascribes the comparatively small attendance. Nevertheless, as to the usefulness of the School he says that

the Grammar School has always been a very important adjunct to the College, contributing largely to the pecuniary resources of the institution by the donations received from the regents of the University (as an incorporated academy), and sending annually a fair proportion of the entering students. Its pupils have always shown a marked acquaintance with the principles of accurate scholarship, and have always formed the solid nucleus of a class. . . . I think [he adds] that the discontinuance of this school at the present time would be a most suicidal act on the part of the College, and would inflict a heavy blow on sound and accurate preparation for entrance.

The city and the vicinity [he continues] are full of mushroom establishments, denominated by courtesy classical schools, where hardly anything really classical is taught, and where the Greek language in particular is almost ignored. Had I not been aware of this fact before, I should have been taught it most clearly by the painful task of instructing the present freshman class in Greek according to the new regulations of the College. If the Grammar School should be discontinued, these so-called classical schools would come into full play, and the consequence to sound education may be easily conceived.

The state of the classical schools in New York at present is far from being so deplorable as it is here represented by Dr.

Anthon to have been a quarter of a century ago, but all that he says of the usefulness of the Grammar School as an auxiliary to the course of education in the College continues to be as true now as it was then. The passage above extracted from the report — a report signed by a committee of which the chairman is still a leading member of the Board — shows that upon this point the committee have been entirely in harmony with the rector, and the adoption of the report shows that their views received the concurrence of the Trustees. Such being the case, it would seem to have been natural to expect that, from this time, the School would have received a new lease of existence, would have commanded a more active interest from the Trustees, and would have been stimulated to higher efficiency and increased usefulness. It is with some surprise, therefore, that we read in the minutes, under a date only six years later, a resolution, by the operation of which the Grammar School, on the first day of May, 1864, ceased to exist.

The entry in the minutes fails fully to explain the nature of the circumstances which led to this action, but the cause appears clearly enough not to have been a change of opinion in regard to the usefulness of such an educational auxiliary, but rather an apprehension that the rector had entered into arrangements which placed it actually beyond the control of the Trustees. The language of the committee by whom the resolution to discontinue the School was reported conveys this impression. It is as follows:

The committee are now informed by Dr. Anthon that he has virtually given over the control of the school to other hands; and while they fully admit the valuable aid that the school, while under his direction, has rendered the College, and trust and believe that under its present arrangement it will still preserve its high character, and continue to furnish many and good scholars to the College, yet, as it has entirely passed from the supervision of the Trustees, they are of the opinion that justice to other schools requires that the name of the College should no longer be connected with it, and that any privileges heretofore granted to scholars entering

the College from it should be rescinded, and all schools be placed on an equal footing with respect to the admission of their students into the College.

It is believed that it would be a judicious policy to revive the preparatory school. The advantage of this would not only be that by means of it there would be secured, as has been already pointed out, a continuous, uniform, and homogeneous course of educational training from the most elementary stage to the conclusion of the course, for those who should resort to it, but that the measure would bring with it a sensible relief from the great burden of the entrance examinations; for in a school directed by the officers of the College an approved final examination would be naturally a substitute for the present examination for admission, as it was formerly while the College Grammar School continued to be maintained.

The revival of the Grammar School could not be considered objectionable on the score of expense; on the other hand, there is no doubt that it would be a source of considerable income. It would command a large attendance, and would exercise an incidental and highly beneficial influence upon other schools of its class. Not a year passes without bringing many applications to the undersigned for admission to such a school — an opinion still extensively prevailing that there is one in existence — and inquiries for information in regard to it are continually received.

The Columbia College Grammar School of former years was placed under the direction of a single professor, and no other College officer except that one was charged with any duty of instruction in it. A better plan would be, while placing the principal control over it in the hands of a single man, to provide also that other officers representing each department of instruction should visit the corresponding classes in the School, and for the time being conduct the exercises. A constant supervision would thus be had, not only over the progress of learners, but over the methods pursued in instruction, and thus the School and College would be kept in harmonious coöperation.

An alternative plan, which would possibly be even more effectual, would be to make arrangements with schools now actually in existence in the city and its vicinity, by which such schools should be subject to visitation by committees of the College Faculty, and should consent to be guided by their methods of instruction by such rules as the Faculty should prescribe. A proposition of this kind was suggested by the undersigned in his annual report for 1878, with the remark, however, that at that time it would be premature to attempt its realization, the number of officers of instruction in the College being then insufficient to make its execution conveniently practicable. That embarrassment no longer exists; for though all the present officers have daily duties to discharge at the College, yet by the union of sections it is possible for one to assume for several successive days the duties of two, and those relieved by this arrangement could act as committees to visit the schools. By this means the system of instruction in the schools would naturally be molded into conformity with that in the College; and the students would pass from one to the other as easily as they pass from one grade to another in the school itself. By the participation, moreover, of committees from the College, in the periodical examinations of the schools, those examinations might be made substitutes for the laborious entrance examinations, at present so trying to both applicants and officers, and would perhaps furnish even better guaranties of proficiency than usually these latter afford.

In the annual report of the undersigned for 1878, above referred to, some notice was taken of the practical application of a plan of this kind by the Universities of Oxford and Cambridge in England, which have organized a joint board for holding school examinations in all parts of the kingdom. The object of this is to improve the character of the whole system of secondary education in the kingdom, by imposing tests upon the schools, designed to stimulate the zeal of instructors and to awaken the emulation of learners. But while this is their principal object, they avail themselves of the same opportunities to ascertain

which of the pupils of the several schools examined are properly fitted to enter upon the collegiate course of the universities, and to such as they find so qualified they issue certificates of fitness which secure them admission to the colleges without further preliminary.

The English University Examination Board extends, as just stated, its examinations to schools in every part of the kingdom, the expense of such examination being borne by the school demanding it; for as the system is not compulsory no examination is held except by request. But as the system has been long and widely in operation, no school can well allow its competitors to enjoy unchallenged the advantage which the exclusive possession of a highly commendatory certificate of the Examining Board would give it; and hence a certain moral constraint compels all who value reputation to submit themselves to the same tests. The effect of this upon all the schools of secondary education in England may be easily conceived. In no way, probably, can the influence of an educational institution of high order make itself more powerfully felt in improving the general standard of education than in this. The most effectual service which Columbia College could render to the same cause in our city would be to institute a similar system among the schools of New York. It would of course be impracticable for us to extend such a system to any considerable portion of the state, but besides the city it might easily embrace the immediate environs. Even if limited to the city alone, it would be attended with benefits of no doubtful importance, and after its usefulness had thus been established upon a small scale, it would naturally grow to greater dimensions.

The advantages of such a scheme to the schools themselves are so obvious that their acquiescence in it may be counted on as a foregone conclusion. The plan as carried out in England embraces a publication of the results of the examination of each school, with the names of the most meritorious pupils in each branch of study arranged in the order of proficiency. The attain-

ment of such a distinction is highly coveted, and thus a powerful stimulus is offered to the ambition of the learners. As the grade of merit is also expressed numerically, the teachers are made similarly ambitious to secure for their respective schools the highest marks and the largest number of proficient of the superior grades. The comparison of the results thus obtained in several successive years affords the most unquestionable evidence of the efficiency of the system in stimulating individual excellence and in improving the general character of the schools themselves.

But in addition to the increase of the usefulness of the College to be secured by bringing its influence to bear through this mode of operation upon a wider field, there is to be considered a reciprocal effect of hardly less importance upon the public estimation in which the College is itself held. Men understand better, or certainly appreciate more justly, facts which come immediately under their own observation than those of which they only hear. What the College does within its own walls is known or at least felt but by the few; but the benefits which it diffuses, when it brings its influence to bear directly upon the schools, animating their activity and stimulating their effectiveness, are universally seen and understood, and they impress, as matters of personal observation always impress, even those who are but slightly affected by testimony upon subjects with which they are not familiar.

All that the great universities of England have done in the exercise of their own proper functions during the four or five centuries of their existence has accomplished less to bring home to the minds of the people of that country a sense of their usefulness than has been effected in a score of years by the operations of their School Examinations Board, which, not being confined to Oxford and Cambridge only, but carried on in every considerable town within the limits of the kingdom, bring the university to every man's door. No doubt those great institutions are highly and justly appreciated by all good Britons; but with

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the great mass of the people the recognition of their value had been matter of faith and not of observation, till they were seen to be producing substantial fruits immediately around them, by tactically improving the standard of secondary and inferior education, as well as maintaining that of the highest.

A similar effect cannot fail to follow from the operation of like course in our own country. The college which brings its influence to bear directly upon general education by coöperating with the schools, encouraging the teachers, and stimulating the noble ambition of the pupils, will force a general appreciation of its usefulness more effectually than it can do in any other way. Such a college will grow in the respect of the community just in proportion as its benefits are thus more widely diffused. The advantageous consequences upon its own prosperity of this growth in public estimation hardly require to be pointed out. The institution which thus diffuses blessings at a distance is felt to be one which has richer blessings to bestow at the fountain head, and hence it becomes more attractive in proportion as it is better known.

In order to reduce the proposition here recommended to a definite shape, it is suggested that the Trustees empower the Faculty of the College to make arrangements with the principals of the leading preparatory schools in the city, particularly of those conducted by alumni of the College, for holding examinations annually or semi-annually of the pupils of such schools in their several subjects of study, under the direction of committees appointed by the Faculty; and for the publication of the results of such examinations in the daily papers of the city and in the annual report of the President of the College; distinguishing those individuals who appear to have excelled in each study, and indicating the average degree of merit of all who have been under examination. It is further suggested that the times of these examinations be so fixed as to be convenient for candidates for admission to college; and that the performances of all the competitors who avow themselves as such candidates shall be con-

sidered with special reference to their fitness for admission; also, that all such of these candidates as shall have been found to have fulfilled all the requisitions for entrance into college, shall be furnished with examiners' certificates to that effect, which certificates shall entitle them to be received into college without further examination.

In the beginning, it might be well to limit this arrangement to one or two schools, extending it gradually to others on their own application, and on conditions which it may become necessary to impose. There can be no doubt that the desire to come into the scheme would be general, and that it might be manifested by schools in the interior of the state as well as by those in the city and its environs. In such case it would overtask the strength of the Faculty as at present constituted, and so might create a necessity for the increase of the academic staff; but should this prove to be true, the expedient employed by the British universities to meet the expense could very properly be adopted here, viz., that of requiring the school receiving the benefit to contribute its quota of the cost. Such an exigency, however, would not occur until it had been created by the demand of the schools themselves to be admitted into the scheme of visitation; and the fact of such demand, while it would be a proof of the success of the system, would also furnish a guaranty at the same time that the means of its support would not be wanting. . .

The adoption of a system of this kind [admission on probation] would afford material relief to the very great labor which attends the entrance examinations. In the annual report of the undersigned for 1878, already referred to, the question was submitted to the Trustees, whether this burden could not be diminished, by substituting, instead of the entrance examination, a period of probation of the candidate, extending to two months after the opening of the term, or possibly to the end of the first session; every candidate to be peremptorily dropped from the roll who should fail during this probationary period to main-

tain a satisfactory record. It was not intended, in this proposition, to dispense with the condition that the applicant for admission should furnish evidence that he had faithfully completed all the studies in the list of requirements for entrance. It was proposed that he should present the certificate of his teacher certifying in the most explicit terms to the fact of such faithful preparation. And it was believed that this exaction would have a tendency to repress rather than encourage the too-frequent readiness of teachers to send their pupils to the examination when imperfectly prepared. The subject failed at the time to receive the serious attention of the Trustees, and circumstances seem to justify its presentation anew.

That practically the system proposed is better than the present one seems to be so clear as hardly to require argument. It is not true that the entrance examination, however carefully conducted, does fairly winnow the wheat from the chaff. The success of the candidate depends to so great a degree upon his self-possession, that instances are not few in which young men known to be well prepared, and who have subsequently proved themselves to be well prepared, have been agitated or disturbed in mind by the novelty of the circumstances and by the apprehension of failure to such a degree as to be unable to command their knowledge or to put their thoughts into intelligible words. On the other hand, other individuals who have managed to pass the examination tests, have by no means invariably succeeded in showing by their subsequent record that they had possessed the qualifications they seemed to possess. In other words, in many cases applicants have failed on examination who would have succeeded in the probationary test, and others have failed in the probation after having been successful in the examination. But of the two tests there can be no doubt that the probation is the most conclusive. It is independent of the momentary moods of the student, or of any surrounding and disturbing conditions. It is not confined to a few selected topics or test-questions, but covers the whole subject which the student is professedly pur-

suing, and shows to what extent and in what manner his mind is able to grasp it. It is, in short, the actual work of the candidate, including not only ability but willingness and habit, while the examination is a test, so far as it goes, of ability only, and even as to this is sometimes fallacious.

Ever since the opening of the School of Mines, in 1864, we have been empowered by the statutes governing the School to admit, either at the beginning of the course, or to advanced standing as far as the beginning of the second year, students from other colleges or schools of science, on their presenting a diploma, or merely a certificate of proficiency, from such school. This rule has reduced very materially the labor of organizing classes in the School of Mines, since a very considerable proportion of the students in that School enter on such certificates. And although such applicants are not in express terms admitted for a probationary period before being recognized as in full membership with the institution, we still retain, and if necessary use, the power to drop from the roll such as fail to maintain a satisfactory record.

The objection to the plan of admitting on certificate which is sometimes made, that it exposes us to the danger of being burdened with ill-prepared students, has not been sustained by the results of the last seventeen years of our experience in the School of Mines; and when it is proposed that there shall be no proper admission at all until after the candidate shall have satisfactorily passed a sufficient period of probation, it is not apparent that any such danger can continue to be possible. And there is certainly reason to believe that a rule which has been attended with results entirely favorable in one department of the institution, would operate no less favorably in another.

Should it be thought worth while to make trial of the plan proposed to receive on certificate to a probationary period of two or four months, it does not follow that this should be done on certificates from all quarters indiscriminately. Moreover, there is good reason for exercising a certain discrimination in designat-

ing the teachers whose certificates shall be received. Among the numerous teachers of the city, there are some who are better known to our Faculty than others. Quite a number are alumni of our own College, and many have sent us students in the past whom we have invariably found to be well prepared. There would be every propriety in giving precedence to these. A list embracing a number of approved names might thus be easily formed, and this would naturally be extended, as other teachers should make themselves better known, either personally or by their work. In the meantime, there would still be probably for many years a considerable number of candidates whose entrance examinations would have to be conducted as at present; but the labor of the examiners would be sensibly diminished.*

* Report for 1880-81, pp. 21-38.

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II

SCHOLARSHIP

JUNE 7, 1869

IF there is any point in regard to which the experimental system at present in operation in our College has been criticized more unfavorably than any other, it is in regard to the mode adopted for ascertaining the proficiency of students, and for assigning to them their respective grades in scholarship. On this point the undersigned has received one or two letters conceived in a tone of condemnation which, in the view he takes of the matter, could only be justified by an amount of experience in the conduct of colleges which the writers certainly did not possess. This is not the first instance in which such communications have been received, nor is this the first piece of legislation by this body, on the same subject, which has met the disapprobation of some of those parents whose sons have at the time been members of our College. When, two or three years ago, the practice of publishing a monthly bulletin of standing in scholarship was discontinued, and in place of this was substituted a yearly classification by groups, the predictions of ruin to the scholarship of the students were numerous and positive. This circumstance struck the undersigned at the time with no little surprise, in view of the fact, which ought to be well known in this community, that the system of marking for scholarship was not at that time ten years old in this College, and that during all that long period of its history in which that system had never been heard of here, the high standard of scholarship maintained by Columbia College, especially in classical learning, was proverbial throughout the United States. During that period distinctions were periodically made, and medals, testimonials, and honors of various descriptions were awarded, upon the strength of the *impression* merely, which each competitor had produced upon the minds of his instructors, and without any reference to any system of numerical record at all. The same state of things existed also in Yale

College during the student life of the undersigned in that institution. His personal observation of the comparative effects of the two systems, an observation which has been extended over a period of forty years, is certainly far from being favorable to the system of daily marks. It is now about thirty-five years since this system was introduced at New Haven; but, in the opinion of the undersigned, officers of that institution who knew it under the former system will attribute any material superiority they may suppose the present state of things to possess much more to the searching system of written examinations, instituted first about the year 1848 as biennials, each covering all the preceding studies of the entire course, and changed in 1860 to annuals, than to the substitution of a system of arithmetical machinery for the direct judgment of sensible men in estimating the relative merit of competing scholars.

The daily "marking system," as it is called, is not, in the opinion of the undersigned, calculated to foster sound scholarship or to encourage good morals. This opinion was long since deliberately formed of it, after much experience in its use and with an original predisposition to regard it with favor. The following is an expression of the convictions resulting from this experience, written and published nearly fifteen years ago, in a report addressed to the Trustees of the University of Alabama:

The honors and distinctions now awarded by the university depend upon a method of estimating scholarship by giving a numerical value to every performance, and preserving a record of every exercise corresponding to its adjudged merit. To the undersigned this method appears to be faulty in two particulars: first, it is a departure from the sound principle on which the prerogative of granting degrees was designed to be exercised by universities—and that is, that none should be admitted to the honor but such as should be found by thorough trial to be actually possessed of the required attainments at the time of receiving it; and secondly, it does nothing to stimulate, and, in fact, it does sometimes appear to deaden, that honorable pride of scholarship which, to the generous youth, is one of the most powerful incitements to intellectual effort. In regard to the first particular, it may be said

that the present marking system tends to induce a habit of studying up or "cramming" for the immediate recitation, without regard to such a thorough understanding of the whole subject as shall fix it permanently in the mind. And to this it may be added that, by making the recitation of the day or the hour the all-important object, its influence is to interfere with the formation of comprehensive or connected views of a subject of study as a whole, or the mutual dependency of its parts upon each other, but to present it rather as a succession of detached and independent doses of knowledge each to be taken by itself without regard to what precedes or follows. The consequence is that, by the aid of a tolerable memory, a plausible display may be made at the moment of recitation, when, a few weeks after, it would be difficult for the student to recall any part of what he had so glibly retailed at first. Nor is this absolutely the worst consequence which, in some instances, precedes or follows. The consequence is that, by the aid of a tolerable aversion to labor, by which to make a false exhibit of knowledge, and thus to secure from the teacher a high estimate for a performance which possesses no merit at all. Concealed papers, interlined books, aid secretly obtained at the moment of recitation by the prompting of a fellow student, exercises and compositions plagiarized from books, problems and demonstrations obtained from better scholars, and many similar expedients, enable a student often to secure an apparently high grade of scholarship on the record, when, at the same time, his real attainments are very low. These evils which seem in both cases to be consequences which the system directly encourages, may, in the opinion of the undersigned, be both of them removed by a slight alteration in the mode of determining grade in scholarship.

This slight alteration thus advocated by the undersigned fifteen years ago consisted in substituting thorough written examinations periodically held, instead of the record of daily marks as the basis of determining grades—the same system, in short, of which we are now testing the value in Columbia College.

There is one point touched upon in the foregoing extract which deserves to be somewhat more largely developed. It is the influence which the system of daily marking manifestly exerts, in repressing the honorable ambition of the student to secure for himself a reputation for solid and substantial scholarship. In

the absence of any artificial machinery for determining grades by registering the semblances of performance, every young man in college stands, as every man in the larger arena of life must stand, upon the direct impression which he makes upon the entire community which surrounds him. The thoroughness of his knowledge, the power of his mental grasp, the degree to which his attainments are instruments to be usefully wielded and not merely dead weights on his memory to be carried — these things are seen and felt, and the man is respected accordingly. Each aspirant, therefore, knows that before he can expect to be rated as a scholar, the first thing necessary for him is really to *be* a scholar. He knows that no solid reputation can be built upon a foundation of pretense, and that no fair outside show turned toward his instructors can mask from the eyes of his own companions any machinery of artifice by which he may hope to sustain a fictitious one. Nor is it permitted him to be indifferent to such observation. His competitors cannot be expected to tolerate unwarrantable practices which would raise him at their expense. Such practices, in any one who aspires to honors, will be visited with universal contempt. Nor will even substantial ultimate attainment command the highest respect, if it be secured by leaning on helps, however legitimate. It may not be positively discreditable to a student that he submits to be “coached” through his academic course, but that man will be held in highest honor who performs the journey with equal success upon his own sturdy legs.

In the state of things here supposed, moreover, the student who has a reputation to support will be subjected to many tests besides those which he encounters in the classrooms; and these will be often more conclusive of his title to the high place he claims than any which the regular course imposes, because they come upon him by surprise and throw him entirely upon his unaided resources. Knotty questions will be sprung upon him by his rivals, points of difficulty will be referred to him, even by comparative strangers; and to these he must respond, or he must

submit to the interpretation which, in such cases, public opinion always puts upon silence.

The effect of influences like these is to lift the student above the narrow and beaten track of the college curriculum. It stimulates him to enlarge the extent of his reading and to strive to master subjects rather than books. He learns not only what he is compelled to know, but a great deal more; and the result is that he derives not only higher profit from his educational course, but immeasurably higher satisfaction.

It will perhaps be said that this is a picture purely ideal, drawn of a state of things which never existed and which can never exist. By no means. It is a picture of Yale College as it was forty years ago, taken from the life — as it perhaps still is — for the undersigned would not presume to speak of matters beyond his knowledge — but as it certainly is not *helped to be* by the system of daily marks. For this system — and this is a grave consideration — holds out no inducement to the student to know anything beyond his daily task, and offers him no reward for any such supererogatory acquisition; it gives him no more honor for working out his real successes by his own determined, persevering, and unassisted labor, than for accepting the work done to his hand by another; it awards him no less, for a successful artifice, than for a solid performance; and it teaches him that whatever value in other respects may attach to a reputation for solidity of attainment, for comprehensiveness of knowledge, for native force of intellect, or for brilliancy of genius, among his companions, this can be of no service to him whatever in advancing him on the road to academic distinction. Under this system, two competitors may equally perform all that is required of them, may attain precisely the same standing on the books, and may become the recipients of precisely equal honors, when at the same time there exists between them an inequality of absolute merit which is palpable and universally notorious. How can it be said of such a system that scholarship, in the noblest sense of the word, is in any manner fostered by it?

It may be objected that these considerations are applicable only to the few who have an inborn love of knowledge, and who are capable of being stimulated to a lofty ambition, while they leave out of view the larger number who neither expect nor desire scholastic honors, and who must be educated, if educated at all, without any concurrence of their own. To the undersigned this objection lies, so far as it lies at all, against all systems of grading in scholarship alike. Every such system appeals to the same motive, the desire of the individual to be distinguished, whether it be much or little, above his fellows. But it is certainly a false principle which would teach the aspirant to prize a nominal distinction above the fair repute for honest and successful effort, of which only such distinction can be the just reward; and this is what the system of daily marks, if it does nothing worse, most assuredly does; while there is too much reason to believe that, instead of securing greater diligence on the part of the careless and indifferent, it only serves to cover up the deficiencies of such and keep them out of sight. And finally, if these things were not so, it might still be reasonably questioned whether we do well to withhold from the better class of our students the highest encouragement to put forth all their powers, for the doubtful benefit of another class, who, as the argument admits, can never be expected to rise above the level of an humble mediocrity.

The objections to the system of daily marking thus far considered are by no means all that exist, perhaps not even the most serious. There is one which is rarely mentioned, yet which is felt by every instructor who has had experience on this subject to be among the most serious, and this is that the system is not what it purports to be, a trustworthy system of determining merit in scholarship, whether absolute or relative. The proposition is, to estimate by a number, ranging somewhere between zero and ten, the value of a scholastic performance. Ten represents perfection, zero total failure. In the case of a faultless performance, or of no performance at all, an instructor can

never be greatly at a loss; but, between these extremes, the value of any given performance is often so equivocal, and almost always so doubtful, that a concurrence of judgment on the part of two equally experienced teachers listening to the same performance is one of the rarest of all occurrences. The undersigned has had the amplest opportunities to see the truth of this assertion tested. In the University of Alabama it was the custom for many years that all the officers of the faculty should attend every examination and make their marks independently. The final result was obtained by the summation of all the marks thus given. These marks constantly presented the widest discrepancies, ranging all the way from two or three to nine. Such differences result in great measure from the impossibility of applying a numerical estimate to quantities which are referable to no exact unit of measure. But apart from this, it is impossible for the fairest mind to avoid being biased, to some extent at least, by preconceived notions of what the student is or is not capable of doing. Nor are the cases rare, in which the officer has been induced to alter his marks after they have been made, sometimes, perhaps, upon the remonstrance of the student himself, or sometimes upon his own conviction that the results, when summed up after the lapse of some days or weeks, do not conform to his expectations, or fairly represent the relative merit of different individuals. There was probably never a fairer critic of scholastic performances, certainly never a more independent one, than our late lamented colleague, Professor Anthon. Yet in the interesting reminiscences of that able officer contributed to the *Cap and Gown* by one of our alumni who was among the most proficient of his pupils, we find it stated that his reports often differed very widely from the judgments which he was accustomed openly to announce at the time the performances were rendered. The plan of daily marking the estimated values of oral performances, considered as a means of ascertaining the relative merit in scholarship of the members of a class, is therefore to a great extent illusive; and if the reports of Dr. Anthon frequently departed so

widely from the results which had been expected from him, the probability is that he formed them very much as he had been accustomed to form his judgments before the system of daily marks was introduced.

Another objection to the trustworthiness of the results deduced from the plan of daily marking is found in the fact that the tests by which different individuals are judged are necessarily very unequal. There will be portions of every lesson recited, upon which none but the stupid or the utterly ignorant can falter, and others which are difficult to the most proficient. But the value assigned to a perfect performance of either is precisely the same, while a trivial imperfection in a matter of the highest difficulty will place a student, for the time being, below one really much his inferior, to whom has been allotted a task in which it is impossible to stumble. And, finally, it may be said that in regard to what are called *perfect* performances, that is to say performances in which all has been done that is demanded, there will constantly be differences which no system of numerical valuations can represent — as, for instance, in the degree of originality or elegance presented in the solution of a mathematical problem, where a dozen solutions may be correct, yet cannot all be equally meritorious. This consideration has led, in one of the colleges of our state, to the almost whimsical practice of giving marks representing values above the absolutely perfect, transcendental values as we may call them, such as *ten*, *plus*, and *ten*, *double plus*. In what manner these are made to have their weight in the general summation is not exactly known.

Most of the difficulties here signalized are avoided in the plan provisionally adopted in our College, of making the determination of scholarship to depend upon written examinations, in which papers are prepared embracing test points drawn from every portion of the subject which a class has been pursuing, and in which the tests are precisely the same for all. The written performances are still, it is true, to be valued according to a numerical standard; but they are not evanescent, they may be

deliberately scrutinized and studied, and in case any question should be raised as to the justice of a particular valuation, the decision may be reëxamined, and the grounds on which it was rendered made known. This plan, moreover, removes from the mind of the critical examiner all possibility of unconscious bias which might arise from an acquaintance with the authorship of the performance, and insures that every judgment will be rendered with exclusive reference to the value of the performance itself.

Finally, the plan furnishes as satisfactory a test as the case admits of, as to the permanent results which a course of instruction has left behind, and as to the amount which has been really added to the available total of the student's knowledge. On all these accounts it is, in theory at least, the fairest test which has yet been suggested of comparative merit in scholarship. It may be added that this is the plan which has been pursued, from time immemorial, in the British colleges upon which our own are modeled. It is the plan on which they are accustomed to award all their distinguished honors, and to distribute all their valuable prizes, scholarships, and fellowships.

It has been questioned whether these examinations will not be liable to be vitiated by unfair practices among the students themselves. On this point the undersigned entertains no serious apprehension. That such practices creep in under the system of daily marking is unfortunately but too true. If they should be continued with success in the examinations, it will only be a transfer, however much that may be to be regretted, of the fraudulent practices from one scene to another. For the prevention of such frauds, the dependence must be, not upon any system of repression, but upon the honor and the spirit of fairness of the students themselves. The practice of fraud in the examination is not only a moral wrong in the abstract, but it is an injustice committed by the student who employs it against all his companions and competitors. As it can hardly exist without the knowledge of those who are injured by it, we have just rea-

son to believe that it will be suppressed by the force of a disapproving public opinion.

There is some reason to trust in this reliance in regard to the examination, though public opinion has been notoriously too tolerant of dishonest practices in the recitation rooms. There is this wide difference between the two cases, that a single act of deceit in an ordinary recitation affects but slightly and very remotely the general result in the ultimate allotment of grades; whereas, in the examination, a single fraud tells at once with all its force upon the record and is a great and palpable wrong to everyone whom it displaces. This tolerance of dishonesty which experience proves to be an inevitable result of the system of daily marking is in fact a serious moral evil, which there is reason to believe that the system we have provisionally adopted will extinguish. The system of daily marking is a perpetual temptation, against which it is difficult for the indolent to hold out, and which there is no hope that they will be compelled to resist by any discredit into which, by yielding, they may fear to fall among their companions. Still, it is necessary to state that the anticipations here expressed as to the results which may follow the important change we have provisionally made in our method of determining scholarship are as yet anticipations only. The plan has not yet been subjected to the test of experiment. This decisive test is for the first time applied today.*

JUNE 6, 1870

The method of grading in scholarship by the examination test exclusively had not been applied to the date of the [last annual] report [of the undersigned]. The first examination held under this new system commenced on the day on which that report was rendered, and its results could not of course at that time be known. The possibility was suggested that these results might to some extent be vitiated by causes which are known to have

* Report for 1868-69, pp. 29-41.

always rendered the daily marking system more or less fallacious — causes not inherent in the method itself, but growing rather out of the imperfection of human nature. Yet the danger from this source did not appear to the undersigned to be formidable, and he ventured to express a pretty assured confidence that the very gravity of the consequences depending upon the examination would suffice effectually to check the practice of unfairness. In this respect, he is compelled to state that his sanguine anticipations have not been altogether sustained by experience . . .

The regulations provided that the only test employed for this purpose should be stated examinations, and, further, that these examinations should be held in writing. As to the propriety and efficacy of this form of the test, the views of the undersigned have heretofore been fully expressed, and nothing has since occurred to induce him to alter them. Examinations in writing, though but recently introduced among us, have in their favor long and satisfactory experience elsewhere. They are the only tests employed in the great British universities, in the determining of the absolute and relative merit of competing candidates for honors, and in the distribution of all the great prizes and scholarships which are bestowed so abundantly in those institutions. They have been so there, moreover, from time immemorial. Within the past fifteen or twenty years they have been employed extensively in the colleges of our own country, both in the ordinary examinations of classes and in the more important competitive examinations of candidates for collegiate distinctions or for more substantial objects of desire. In this latter class of examinations, it is believed that they are at present employed almost if not quite universally. The prize examinations in our Law School have been conducted in writing ever since its foundation. Our junior prize examinations in Greek are conducted in the same way. In regard to these, there has never been any question that the method is a fit one to be pursued; there has never been any doubt that it is the fittest of all.

Nevertheless, in the adoption of the examination test as the

sole test of merit in scholarship, and in the application of the rule that all examinations shall be held in writing, it appears that results have been reached which have not been entirely satisfactory either to instructors or to students. It is affirmed that the reports of the examiners, founded upon the seeming merit of the written performances, do not harmonize with what is known of the actual attainments of the authors; and that therefore an order of merit founded upon these reports cannot but be unjust. This statement involves the implication that students have come to the examination room fortified with instrumentalities which enable them to defeat the object of the exercise, which is to ascertain the actual state of their knowledge in regard to the subjects of the examination. It seems incredible that this should be generally true of entire classes; but it must at the same time be admitted that, if true to any extent whatever, it cannot but throw a degree of uncertainty over all the results. In regard to the question whether it is not possible, by some means or other, to suppress entirely the exceptionable practices here referred to, opinions are divided. Partial elimination will not suffice; the elimination must be complete and thorough if the system is to be made trustworthy. No measure of vigilance on the part of the presiding officers can be relied on to effect this object, for any degree of vigilance may be foiled when the ingenuity of numbers is enlisted in the effort to baffle it. The remedy must come, if it come at all, from the awakened voice of conscience and sense of honor on the part of those who practice or encourage the abuse, or the indignant feeling of injury excited in the honest who suffer by it. It was upon the presumed activity of these sentiments that the undersigned had placed his reliance to prevent the evil; and now that it has appeared, he entertains for his own part not the slightest doubt that they might still be made efficacious to suppress it. Should such a result be accomplished, the moral effect could not but be in the highest degree beneficial; and the undersigned cannot but feel deeply how immensely more desirable it is always to beat down and destroy any moral evil

than to give way before it. But in order to success in such an endeavor, faith in the possibility of success is an indispensable essential on the part of all engaged in it; and in the possession of such a faith the undersigned has recently stood nearly or quite alone.

The regulations prescribing the tests of scholarship were therefore modified, after the intermediate examination in February last, by providing that monthly determination of standing should be made in all the classes, by such methods as the professors should severally choose to adopt; and that the results of all these monthly determinations should be combined with those of the general examinations held at the close of each session. The determinations here provided for have been variously made—in some instances by oral and in some by written examinations; and in some, finally, by the judgment of the professor, founded on the performances of the student throughout the month. It is believed that, apart from the usefulness of these exercises in fixing the relative grades of students in scholarship, they have been promotive of an improved spirit of diligence, and have sensibly diminished the amount of irregularity in attendance.

Beside the objection to the use of written examinations above referred to, exception has been taken to them by some on different grounds. It has been said, for instance, that there are persons who are embarrassed in giving utterance to their thoughts the moment they take a pen in hand, although capable of expressing themselves *vivā voce* with the utmost fluency. There may be truth in this, but the converse of the proposition is true in a much more striking degree. Fluent utterance in common conversation is not here the test. In common conversation, ideas are usually familiar, often trivial; they lie very near the surface and are easily skimmed off. They are involved with each other but very slightly in logical entanglements, and exact no close concentration of thought or prolonged exercise of the reasoning power. The test comes when the speaker has to present something which is not simple; which cannot be made intelligible without a care-

ful choice of words, and a logical arrangement of material; which demands, in short, a considerable amount of mental labor and a high degree of mental activity. Under these conditions, ten will be likely to fail in the attempt at a spoken exposition, where one will do so when called upon to set forth his ideas, with ample time allowed, in writing. And when it is further considered that one who is, under ordinary circumstances, the clearest of thinkers and most fluent of speakers, is liable, under the excitement of a public examination, by the concentration of the general attention upon him alone, to have the current of his thoughts disturbed, and his command of language completely paralyzed, while he who prepares his answers in writing is as effectually isolated as if he were in his own private study, it appears to the undersigned that, in a question as to the advantages or disadvantages to individuals of different methods of examination, the preference on the score of fairness must be given to the written method rather than to the other.

It is said further, in disparagement of written examinations, that under this method a student will have the opportunity to put forth statements correct in form, of the proper signification of which he has nevertheless no just notion; and that the method affords no means of detecting his weakness in this particular; while in an examination conducted *vivā voce*, a few well-directed questions may bring clearly to light the actual state of his knowledge. In this objection, it is implied that the question papers prepared for written examinations are so prepared as to admit of being answered, throughout, in the formulated language or stereotyped processes of a textbook; but here the fault is in the papers and not in the method. It seems to be by no means a difficult thing to prepare a paper upon any subject which cannot be answered, and in this case the objection falls to the ground. Moreover, it is not to be forgotten that, in oral examinations, especially where the number of students in a class is considerable, the duration of the exercise must be excessively protracted, or otherwise the time given to each individual must be so brief as

to make the application to him of any proper test of the extent of his knowledge next to an impossibility, and to put the use of any effectual system of cross-examination out of the question.

There is nothing impracticable, nor in general even difficult, in preparing examination papers which shall not admit of being answered by reproducing language familiar to the recitation room. In the mathematics, for instance, problems may be presented which the student has not previously solved or seen, though involving principles with which he ought to be acquainted; or theorems unlike those of which he has read the demonstrations, though exacting analogous processes of reasoning. These are the exercises which test to what extent the student understands the principles which, it is supposed, he may sometimes formally enunciate without comprehending; and they constitute a more effectual test than any plan of hurried cross-questioning can do. So, in the study of languages, there seems to be no need that the passages selected for the student's exegesis should be such as he has read before. On all accounts, it would be far preferable that they should be passages which he has never seen at all. It might be just to confine the choice to the authors on whose works he has been employed, but not to take those portions of these works which he has just been reading. The main object is to ascertain what he knows of the language of his author. A secondary object may be to determine how much he has learned of the peculiarities of this particular author, as it respects his style or his tone of thought. But both or either of these ends may be better secured by taking a passage which is new, than one which has become hackneyed by frequent repetition. If a student has read, for instance, three books of the *Odes* of Horace, or as many of the *Iliad* of Homer, it is better to examine him on the fourth than on one of these three. It is easy for the examiner to make selections which involve no new idioms, and no difficulties of construction which ought not already to be familiar; and it tests much more thoroughly to what purpose a learner has studied, to ascertain how far he has mastered the

principle of a difficulty so as to be able to apply it to the solution of other difficulties of the same class, or how far it may be true of his knowledge, on the other hand, that it covers only the original case.

Examination papers judiciously constructed upon this plan would possess not only the merit of admitting of no routine answers, made up of words grown familiar through repetition in the recitation room without having become intelligible, but would also render the use of concealed helps to performance, no matter with what ingenuity previously prepared, entirely ineffectual for the purpose designed. And this consideration furnishes what seems to the undersigned to be an entirely conclusive answer to such as maintain that by no expedient whatever can an honest examination in writing be secured, when there is a deliberate determination on the part of any considerable number of those who are to be examined to prevent it.

It is a real disadvantage of written examinations that the criticism of the papers, after the examination is over, imposes a heavy burden upon the examiner. No task can be more monotonous nor more disagreeably irksome than that of perusing thirty, fifty, or a hundred manuscripts, many of them of considerable extent, all of them occupied with the same elementary topics, and most of them disfigured more or less by errors. Considering this objection, which is really serious, it has occurred to the undersigned to suggest a plan whereby it seems to be practicable to secure, for every useful purpose, all the advantages of written examinations — that is to say, of examinations in the only form which can be perfectly thorough and searching — while freeing them from the liability to be rendered nugatory by unfair practices; and to reduce the labor of reading and criticizing the papers within reasonable limits. This plan, which has suggested itself since the report of the committee on the statutes was made, whose propositions for the permanent regulation of this subject are now before the Board, has been embodied in an amended form of statute, which will be offered by the undersigned as a

substitute for that portion of the committee's propositions which relates to examinations and the proficiency of students.

This plan is in brief the following. At the close of every academic month each class is to be examined, and a report of the examination is to be rendered to the President. These reports are not to be made public, but the President may communicate the particulars which relate to any individual student to the parent or guardian of such student. Any who shall be found deficient shall be immediately informed of the fact and required to make good the deficiency within some limit of time to be fixed by the Board of the College. These monthly examinations are to be called pass examinations, and to be conducted in any manner the several professors may choose. There shall also be one class examination yearly, to be held at the close of the year. This examination shall be conducted in writing. It is proposed to make attendance upon this examination entirely voluntary, no student being required to attend it. Upon its results are to depend the distribution of honors for the year. Volunteers for the class examination must announce to the President their desire to compete, before the first day of the preceding January. After the award of honors, the highest publicity is to be given to the names of their recipients. Finally, no student is to be allowed to participate in the literary exercises of the Commencement who shall not have been a competitor in the class examination of the senior year.

This plan has, it is believed, the general approval of the Board of the College. That it would be effectual in freeing the examinations from the vicious element which has created some reasonable distrust of the results of written examinations heretofore is rendered almost certain when we consider that our prize examinations have never as yet been thus vitiated, and that the same influences which have kept them free will bear equally upon the examinations for honors which are now proposed. The plan would also reduce within moderate compass the mass of the papers which the examining officers will be under the necessity

of criticizing and comparing, since it is hardly to be supposed that the majority of any class will volunteer for the proposed competition. Indeed, it is one of the obvious benefits which the plan proposed will bring with it that the exactions for the examination may be raised so as to encourage superiority of attainment — a thing which cannot be said of our present examinations, or of any examination in which, as in ours, the pass examination and the examination for honors are placed upon the same level and blended in one.

It would add, no doubt, to the efficacy of the plan here proposed, if, in case of its adoption, there should be adopted along with it the scheme heretofore reported by the committee on the statutes, for the creation here of a system of scholarships and fellowships having a sufficient pecuniary value to make them objects of desire. The time is perhaps not distant when that scheme may receive the favorable consideration of the Board.

No method yet devised for grading students in the order of their scholastic merit is free from objectionable features, unless it be the simplest of all supposable methods — one which was in use in Yale College forty years ago and gave there a satisfaction almost universal — the method of placing young men in an order determined, at a late period of the college course, by a direct judgment, founded upon the impression which each individual had produced through the resultant effect of all that he had done from the commencement of his college history. This of course leaves the students of every class for a long time ungraded. In Yale College, at the time referred to, it left them so for more than two years; and the grading then at length made was confined to honor men, and left therefore more than half of every class ungraded still.

It is believed by some that the system of grading by the numerical valuation of performances is necessary to keep the student up to his work. Yet in the institution just mentioned there was not, in the absence of any such system, any lack of diligence. Nor, because there existed no authoritative scale set-

ting forth the positions of the several members of a class in point of scholastic merit, was there ever any uncertainty in the mind of anyone, as to what position each actually occupied. Indeed, it is the well-settled opinion of the undersigned that the grades which are thus fixed by an unbiased public opinion, with which no bulletins of the authorities interfere, are much more likely to be assigned with justice than any which are ever established by an artificial system of marks. We can hardly doubt, indeed, that cases are frequent — that cases exist in this College at this day — in which the same individual holds two grades in the same class — one, that which is attributed to him by the honest judgment of his classmates, and the other, that which he enjoys as the result of a laborious application to his case of the rules of arithmetic.

The true stimulus to exertion, the most healthful stimulus of all, is the good repute which waits on honorable effort. If this is not true, what is the benefit of the numerical scale which every artificial system employs? Is this not understood to be a measure of the title to consideration which each individual has won? And will not this consideration seem to him just as valuable if he is simply conscious that it belongs to him and is credited to him by his companions, as if he sees the fact proclaimed upon a bulletin board in order that it may be known of all men? Supposing that, in this second case, the possibility should occur to him that such a proclamation upon the bulletin might be secured without the possession of any just title to it on his own part, is it not probable that the honorable ambition to be really worthy, and to be esteemed for real worth, may be swallowed up in the less laudable aim to secure a nominal distinction without any substantial merit to justify it?

It is not true that, where there are no authoritative announcements of grades in academic institutions, there no honorable emulations exist, no incentives to diligence, no good influences powerful enough to hold the youthful mind up to the line of duty, and to enable it to resist the allurements of pleasure or the seductions of indolence. The history of the University of Michi-

gan, from the foundation of that institution to the present time, confirms the lesson that we have just found in the early history of Yale College. No system of grading in scholarship has ever existed in that university, whether founded upon daily performances in the recitation rooms, or on those of the periodical examinations; nor has the absence of such a system ever made itself injuriously felt, through any observed lack of interest on the part of the students in their studies, or through any prejudicial results as it respects the character of the scholarship secured.

The plan which is proposed in the amendment presented by the undersigned today to the form of statutes reported by the committee, makes no provision for the grading of any students but those who ask to be graded. In every class, there are always a large proportion who do not expect honors, and who have not the earnestness of purpose, or the power of perseverance, or the physical strength, or possibly the intellectual capacity, to secure them if they did. Such are but feebly influenced by any artificial system of grading, and yet very few among them are insensible, after all, to the repute which they may acquire among their companions. This repute is often very high for what they might be if they would; and the place which they would occupy on an artificial scale could not be such as to add anything to it which they would more highly prize. It is better, therefore, that there should be no declared distinctions of grades among pass men. And this omission will serve to render any place in the list of class men, even the lowest, only so much the more honorable.

The plan here proposed is the plan of the British universities, with the exception that the monthly examinations of all the students alike, which are not required there, are calculated to secure a more satisfactory degree of scholarship in the pass men than their system admits. To the undersigned it appears to be a more satisfactory mode of disposing of the difficult subject of grading in scholarship than any which we have heretofore tried.*

* Report for 1869-70, pp. 18-32.

MAY 7, 1883

For many years very wide differences have prevailed among educators as to the best means of arriving at a just estimate of the relative value of scholastic merit among students under a common system of instruction. The method most commonly in use both in this country and abroad is what is called the "marking system." This system, which originated in schools, is now employed in the civil service examinations of Great Britain, and has been also in our own, so far as appointment or promotion in the service has been hitherto made on the basis of superior qualification as ascertained by competition. It consists in requiring from all candidates for distinction written answers to certain questions, which are the same for all, a perfect answer to each question having a certain previously announced valuation numerically expressed; imperfect answers being valued at lower rates, according to the degree of their imperfection, in the judgment of the examiner. The order of merit of the several competitors is then assigned in accordance with the sums total of the values thus assigned to the answers of each. This system is at present very generally in use in the colleges of our country, with some differences, however, in the manner of its application. In most it is applied not only in the regular examinations, in which are periodically tested the attainments of students in the studies which they have been pursuing through an entire year or session; but also in the daily exercises, in which examination is oral and is confined to that limited portion of the subject which constitutes the lesson of the day. The summation of these daily valuations, therefore, combined with that assigned to the concluding examination of the year or session, gives the numerical expression of the student's relative scholarship for that portion of his academic course. And a similar summation of these partial valuations made at the conclusion of the entire four years fixes the final place in the order of merit of each student at his graduation. In theory, and on a *prima-facie* view, this plan seems to be judicious and

entirely just. In its practical working, however, it appears often to lead to results which contradict the judgments of the instructors, deliberately formed from the study of individual minds and observation of their relative capacity and activity and of their ultimate more or less perfect mastery of the subjects of instruction. There are other reasons besides this which make the marking system, in the opinion of the undersigned, decidedly objectionable. Nor has he failed in past years in communications to this Board to set forth his reasons for his convictions, and to urge the replacement of this system by something better, if anything better can be found. In point of fact, in consequence of these representations, a committee of the Trustees was appointed in February, 1869, with the extraordinary power to suspend the operation of the statutes, or of any portion of them which they might see fit for the time being to set aside, and to lay down, by resolutions of their own, rules for the government of the College as to all matters relating to scholarship or discipline. This committee were, indeed, charged with an authority quite as absolute as that of the decemviri of the Roman commonwealth, and they held their office about as long. Their first act was to suspend the entire body of the existing statutes, and their next to promulgate a series of resolutions which constituted for the two or three years following the sole code of academic law in our College. One provision of these resolutions abolished entirely the marking system, so far as the daily recitations or other ordinary scholastic performances were concerned; a second substituted written for oral examinations, to be held semi-annually as before; and a third required that, in addition to these semi-annual examinations, there should also be held examinations monthly, in which the examiners, instead of attempting to discriminate minutely as to scholastic merit between individuals, should arrange the members of the class according to the results of the examination in five groups, the first composed of those whose performances appeared to merit the highest distinction, and the others representing inferior grades in their order, the members of each group

being esteemed to be equally meritorious. As these groups were made in each department, it would usually happen that an individual student would be graded differently in different studies, so that on the combination of all the results it would naturally follow that while in some instances two or three individuals might be bracketed together, yet on the whole each member of the class would occupy a definite position in the general order of merit. In this scheme, it will be seen that no attempt was made to attach an exact numerical valuation to every minute portion of the students' work, an attempt which, in the obvious impossibility of establishing a unit of value for such determinations, must inevitably lead to very uncertain results, the assignment of relative grades being made very largely, or principally, dependent on the impression produced on the examiner's mind by a general survey of the performance of each competitor taken as a whole.

The semi-annual examinations, however, continued to embody the feature of numerical valuation, so that, by the combination of their results with those derived from the monthly examinations, the presumed advantages of both systems might be supposed to be secured. No account, however, was taken at all of the daily performances of the students in the routine exercises of the year, the committee being influenced by the belief that the value of an educational course, and the faithfulness to duty of a student under it, are best tested by ascertaining what is the lasting effect the course has produced, rather than the apparent evidences of proficiency shown in the daily round of exercises prepared during its progress for immediate display, and presently too often forgotten. In the civil service and in private business, appointments are made on the evidence of the present and not of the past knowledge of the candidates; and to the committee it appeared just that college distinctions should be awarded on the same principle. This system, which is in principle that on which honors are allotted in the British universities, was received at first with satisfaction by the students, who had in fact peti-

tioned the Trustees to abolish the marking system previously existing; and for a time matters went on under it harmoniously. But, in progress of time, the method of grouping by grades in the monthly examinations, which formed part of it, became the occasion of some discontent, not so much on the part of the students as on that of the professors, most of whom inclined to prefer a system to which they had been long accustomed. The committee, therefore, when about two years later they reported to the Trustees a body of statutes embracing the modifications of the former code which in the light of experience they had been led to approve, proposed that the monthly examinations should no longer be reported on by grades, but that after each such examination the examiner should make a numerical scale of the standing of all the students under his instruction, according to a standard prescribed by the Board of the College, the examination to be conducted and the order of merit fixed in any manner the instructor might prefer. The semi-annual examinations were retained without alteration. This plan of determining proficiency has now been in use since 1871, yet dissatisfaction with its operation has been manifested at frequent intervals throughout all this time, and this has been recently loudly outspoken. A proposition has been even made to revert to the method of assigning academic distinctions which was practiced in our College less than thirty years ago, and previously from its foundation in the last century, according to which, the members of the Faculty, toward the close of the academic course, arranged an order of merit for the graduating class, by a comparison of opinions, formed from personal observation of each student's capacity, diligence, and substantial attainment. It is not remembered that the determinations thus arrived at were ever subjects of complaint. Another plan, which has been suggested as better than the present, is that which was in use many years ago in Yale College, in which the order of merit was determined in great measure by the suffrages of the students themselves. In favor of this method, it has been argued that it operates to stimulate the desire of honorable repu-

tation for substantial merit, reputation for the possession of real scholarship, instead of mere flash and outside show, and that it discourages also resort to the dishonest artifices by which young men sometimes succeed in imposing upon their instructors, and thus in securing a standing to which they are not entitled—artifices which can rarely be concealed from their companions, however they may be from those on whom they are practiced. Against the present system of rating scholarship, it has been argued, with great appearance of earnestness, that it often operates to inflict manifest injustice, as illustrated in particular cases in the history of the past; and elaborate attempts have even been made to discredit its results by applying to them the principles of the mathematical theory of probabilities. This subject is an interesting one, and it has also an obvious practical importance. It seems desirable that it should be carefully reconsidered.*

MAY 2, 1887

The discussion as to the expediency of maintaining, abolishing, or modifying what is called the "marking system" has been going on in this College, and no doubt in many others, for years, without having reached any definite conclusion. The frequent use of the phrase itself, without definition, would seem to indicate that by "marking system" is meant some universally understood method, in general use, of estimating according to a numerical scale the relative values of scholastic performances. This, however, is hardly true. There are marking systems and marking systems. In fact, the use of some sort of marking system can hardly be avoided while gradation in merit is attempted at all, even though it should be simplified to a mere arrangement of names in a certain order. In this case the "mark" is the place of the name in the numerical list. This is, in fact, in principle, the marking system as practiced at West Point; but it is not that, so far as the knowledge of the undersigned extends, of any system in use in any American or in any British college. The systems in

* Report for 1882-83, pp. 32-36.

actual use are various. It may be worth while to indicate their distinctive features. That which was found in operation in Columbia College when the connection of the undersigned with the institution began consisted in a daily marking of every exercise, whether of recitation, composition, declamation, translation, mathematical solution, or written exercise, at a valuation proportioned to a given maximum, according to the judgment of the instructor. The summation of all these valuations for an entire session gave what was called a *term mark*. To this was added another value derived from the closing examination, having an effect on the final standing equal to that of the term mark, and the sum of the two constituted the credit side of the account. But there was also a counter-system of demerit marks, given from time to time for misdemeanors or peccadilloes, the sum of which at the end of the session was required to be deducted from the credit, and the balance remaining determined the position of the individual in the general order of merit in his class. The working of this system in practice was attended with a good deal of inconvenience. In the first place, it assumed that every student should actually perform and receive a mark for every exercise prescribed to his class; otherwise, the aggregate results in different individual cases could afford no fair basis for comparison. But in classes or sections of from thirty to fifty individuals, it is practically impossible to give each person an opportunity to be heard in the brief space of a single hour — the time usually devoted to a college exercise. Hence, it will happen that, in such a class, a student may fail to be “called up” oftener than once out of three or four times. His record will therefore present a series of blanks, and the number of his actual performances will rarely be the same as that of others of his class. As the simplest way of correcting the consequent inequalities, the practice used to be to fill the blanks by allowing to each a mark deduced from the sum of those actually given, divided by their number, which was called “giving a man his average.” But this did not meet the whole difficulty. The average was given only for blanks occur-

ring when the student was actually present and (ostensibly at least) prepared to perform. Other blanks, however, would from time to time occur, in consequence of *absences*, excusable or inexcusable. If the absences were excusable, as having been occasioned by illness or other cause beyond control, the blanks might be filled by "making up" the exercise (as it was called) to the instructor out of class hours. This imposed a tax upon the teacher's time, which was occasionally very heavy. But if the absences were not excusable, each blank counted for a zero.

The faults in this system are obvious. In the first place, it was a capital fault that it mixed up marks for scholarship with marks for conduct; so that the results furnished no criterion of character, either intellectual or moral. On this account alone, the undersigned did not hesitate to condemn it at once, and this feature of it was immediately abolished. The system so modified continued to be maintained for several years; but it worked very heavily, and became after a time so unsatisfactory to both officers and students that it was finally, in March, 1869, abandoned altogether.

As a substitute for the system abandoned, it was resolved that, from that time forward, standing in scholarship should be made dependent exclusively on the results of periodical examinations, to be held semi-annually. It was further ordered that these examinations should be conducted, wherever possible, in writing. Also that, in the examination papers periodically prepared, a valuation should be attached to each question or requisition set forth for solution, to be awarded for a perfect performance; imperfect performances receiving lower valuations according to the estimate made of their merit by the examiner. This, though not the "marking system" as it had been commonly understood before, was nevertheless a marking system of a simpler kind. It was the system used, and the only system used, in the British universities; with this difference, that while those institutions mark once for all, at the conclusion of the course, the marks here were given

semi-annually, and the aggregates of all these semi-annual markings were taken at the close.

A little later, this system received a still further simplification. Marks for particular performances ceased to be given; but every instructor was required to make a monthly report, arranging the students in each of his classes in five groups, distinguished by the simple numbers one, two, three, etc. Group I embraced the students manifesting the highest degree of excellence. The other groups consisted of grades successively inferior, Grade V being intended for the unsatisfactory or deficient. Here personal distinctions between the members of the same group were ignored. In the permanent record was entered opposite each name the number of the group to which it was assigned in each successive monthly report; and at the close of the year, or of the course, the numbers opposite the several names were summed up. The smallest sum indicated the highest standing; the largest sum, the lowest. Names having equal sums against them were bracketed together as of equal rank in the order of merit.

The officers in their monthly reports were to be guided in their groupings by the judgments they had been able to form of the comparative ability or proficiency of the students under their instruction, aided by any memoranda they might be disposed to keep of actual performances, to assist their recollection; but they were to report no valuations of particular performances. To the undersigned, this method of grading seemed to be less open to objection than any other which he had ever seen in operation; yet, for some reason never distinctly avowed, but supposed to be the omission to distinguish differences of merit between the individual members of the several groups, it began, after a limited period of experiment, to breed discontent; and in October, 1870, there was introduced a final modification of the system, giving it the form which it has since maintained, and which seems to be as little satisfactory as any which has gone before. According to the present plan, the monthly reports of the instructors continue as under that which was abolished, but

their form is changed, the classification by groups being replaced by a general list of names in the order of merit; and the basis on which the arrangement is made being no longer the general judgment of the instructors, but the valuations given to the actual performances of the students in an examination held for this express purpose every month. The final order of merit for the year or for the course is obtained by combining the results of all the monthly examinations with those of the more general semi-annual examinations, giving to these latter a weight equal to that of all the preceding monthly examinations of the half-year. Under this system, if a student is absent from any monthly or semi-annual examination, he suffers a serious loss, a loss which, however, in case the absence is excusable, he is privileged to make good by a special examination separately held.

The method here described works certainly with much less friction than the daily marking system formerly in use; but it is open to some of the very serious objections which lie against that, and which must lie against every system according to which an order of merit is based on the numerical values assigned to the performances in written examinations. The first of these is that the scheme stimulates the ambition to secure favorable marks without awakening a corresponding desire to become possessed of the knowledge by which such marks may be fairly won. To produce a performance which may meet the approval of the examiner is therefore the object of the student's highest endeavor, without regard to the means by which this object is accomplished. Hence the resort to dishonest practices, the use of which has been recently charged to be so general in other institutions as well as in this, and which, there can be no doubt, is often attempted, whatever opinion may be entertained as to the extent of its success. There are those who have watched the operations of this system for many years who are ready to declare it is a failure altogether; and that even under it the highest academic honors have not seldom been secured by fraud. If the undersigned does not fully partake of these convictions, he has at least reason to

believe that they are not wholly without foundation; and he therefore regards the objection to the system well taken, that it does not accomplish the object proposed.

But a greatly more serious objection to it than its failure is its demoralizing effect upon those who live under it. Whether the fraudulent practices which it is so positively asserted to encourage are successful or not, there can be no doubt that they exert a most deadening influence upon the moral sense of those who are tempted to employ them. So pernicious an influence steadily acting upon a susceptible youth at the period when character is forming can hardly fail to undermine his principles and destroy his sense of obligation in all the relations of life. It destroys, moreover, his sense of shame; for while, in its own nature, cheating in an examination room is as essentially disgraceful, and is always so felt to be by an unsophisticated youth, as cheating at cards, yet a little familiarity with the practices which young men tolerate among themselves in this matter so completely dulls their sensibility on the subject that they cease even to affect concealment of their dishonesty, but rather plume themselves publicly among their fellows on their success. A system which naturally and, as it would seem, inevitably leads to consequences like this, is not one which can be wisely maintained in an institution for the education of the young.

The evils here spoken of owe their existence to the fact that examinations are in writing. Oral examinations afford small opportunity for imposing upon the examiner a show of knowledge where the reality does not exist. Even though the letter of a text may be correctly repeated, a few well-directed questions will quickly discover how far intelligence enters into the performance. If it be inquired then why examinations should not be made entirely oral, the reply must be that they were so half a century ago, and that the method was abandoned for what were then esteemed to be reasons of weight. Among these were the large amount of time necessary to make an oral examination thorough, when each individual of a class has to be separately taken up. The

method is quite feasible for a single person or for a squad of two or three; but with classes numbering from fifty to an hundred or upwards it becomes intolerably laborious. Another reason is that, in oral examinations, where all the students are examined in each other's presence, the tests cannot be identical to all; and this, considering that the object of the examination is professedly to settle the question of comparative merit, is a fatal objection. It may indeed happen, and it is in fact an occurrence which, while the system was in use, often did happen, that the least proficient man in a class, through the lucky chance which caused the most elementary matters to fall to his share, was enabled to appear to better advantage than the most thoroughgoing of his competitors.

Neither the oral nor the written examination seems, therefore, to be well adapted to secure the result which it is the object of either to attain, viz., the arrangement of the members of a class of competing students in a just order of merit. The question may then be very properly asked whether this object is important enough to justify the trouble it costs to secure it. There can be no doubt that the educational effect upon young minds of a course of study would be much more beneficial, if the incitement to effort could be the love of knowledge for its own sake rather than the ambition to be publicly proclaimed as outranking their fellows in a scholastic roll. Why should there be any publication made as to scholastic merit except the distinction into classes of the *proficient* and the *deficient*? This is a question presented in the last annual report of the undersigned, and it is now repeated. The distinction here proposed is the only one made in professional schools, and it is the only one needed. In schools of the liberal arts, the order-of-merit plan seems to have been adopted in the belief that the spirit of emulation induced by it might stimulate diligence in study. Perhaps it does, to a certain extent and among the ambitious and the limited number to whom high distinction is a possibility; but it is doubtful whether, among the great majority, this stimulus is felt at all, and it is not at all doubt-

ful that, among a large proportion, the influence of the system is discouraging rather than animating.

Should it be deemed advisable, however, to continue to maintain the traditional practice of grading classes in a regular order of merit, it would seem to the undersigned most judicious to entrust this arrangement either to the judgment of the officers having charge of the instruction of each class, to be made according to the impression produced upon their minds by the performances of individuals throughout the whole course of study, and not upon the basis of any system of numerical records; or, better than this, to leave this determination to the free suffrages of all the members of the class concerned, each student to form for himself independently an order of merit embracing the names of all his classmates, and a result or authoritative list to be deduced from the combination of these in the ordinary way of counting the ballots in an election. This method has the recommendation that it has been actually and successfully tried during a long series of years in one of the leading colleges of the country. During all the earlier part of this century, and down to some time later than 1830, no other method of determining academic rank was practiced in Yale College than this. The ballot was resorted to only twice during the four-year course: once just previous to the Junior Exhibition, and again in anticipation of the final graduation; but it might be employed more frequently, if thought advisable. In the meantime, no record was kept of the relative standing of different individuals, and men were esteemed according to the reputation they established among their classmates, who were the observers of their diligence and of the character of their scholastic performances. This system was abandoned at New Haven, not because of any distrust of its fundamental principle, but from the belief that the plan of giving a daily mark for every exercise would have the effect to keep the student more closely up to his work; and hence the marking system was adopted. The two could not work together, and consequently the practice of voting was discontinued.

Two obvious advantages recommend the plan here proposed. It leads young men to prize the good opinion of their fellows, and to seek to be esteemed for real and not for a fictitious scholarship, represented by "marks" obtained often by methods of equivocal character; and it trains young men in their early years to the use of those methods for securing success, on which they will be compelled to depend throughout all their future life.

Two objections have been made to the plan. First, it is said that young men will be biased, in giving their voices, by feelings of personal friendship or aversion; and the vote will not be expressive of an honest judgment. Secondly, there are, at this time, so many distracting interests among college students, the offspring of their numerous petty associations, that class feeling is to a large extent subordinated to ambitions of a less comprehensive character, in consequence of which the vote will be partisan, and the result reached by it will be a triumph of factions, and not an expression of conscientious convictions. Both these objections are hypothetical. Long-continued experiment has proved that the first is baseless. The disturbing cause assumed in the second to be so dangerous did not exist, or did not exist to the same degree, early in the century; and what might be its influence can only be matter of opinion. A new experiment might very probably prove it to be quite inefficacious for harm. Such an experiment is certainly worth trying.*

* Report for 1886-87, pp. 19-30.

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III

CHANGES IN THE CURRICULUM

JUNE 6, 1870

IT is a subject worthy of consideration whether, in the changing character of the popular demand for higher education, the time has not arrived when all our colleges must begin to admit into the program of their instruction a larger diversity of subjects and give to their methods a greater degree of elasticity — a greater power of accommodating themselves to varying preferences — than has been heretofore considered expedient or necessary. While there is no reason to believe that the demand is less at present than at any former period for educational culture of a high order, or that the number of young men in proportion to the population who devote themselves to an educational preparation for the business of life, continued through a period as great at least as that occupied by the collegiate course, is at all diminishing, it is nevertheless true that the higher culture no longer possesses the same uniformity of character which distinguished it half a century ago. There can be no doubt that that species of culture which we fitly distinguish by the word scholarly — that culture which tends most directly to refine the taste, to stimulate (while it chastens) the imaginative faculties, to bring its subject into contact and sympathy with minds of the highest order of creative power; and which contributes, more than any other, to give him the mastery over language, the most effective instrument by which the influence of the individual makes itself felt over his own or succeeding generations — while it has lost none of its value in the eyes of those who love learning for its own sake, is sought nevertheless by no means so exclusively as formerly by young men who aim at some kind of intellectual eminence. The immense development which has been given in our own country to the physical sciences, and the impossibility of attaining distinction in the broad field which they open without an almost exclusive devotion to their cultivation, has created a

new class of educated men in whose training studies purely literary have occupied only a secondary place. To the pursuits of men of this class, a knowledge of the modern languages of Europe has also an immediate importance much greater than is supposed to attend any very profound familiarity with those of classic antiquity; and, for this reason, these latter languages have been generally neglected by them. The wants of this class of men have been in part, but as yet not adequately, met: by the creation, under various names, of independent schools of science by the establishment, in the literary colleges, of separate courses of study, called by some scientific, and by others university courses; by the admission, into other institutions of the same grade, of what are called irregular or partial-course students and, finally, by enlarging, in others, the curriculum of study, and allowing to all students a wide latitude of selection among the studies thus presented. For the most part, the independent schools have not professed to furnish a system of general culture, but have aimed to train their students to certain specified scientific professions, or at least to advance them with a certain degree of exclusiveness in some particular department of science specially selected. The object of the scientific and university courses of colleges, and of those which are largely made up of elective studies, has been to accomplish, by varied instrumentalities, the same educational ends which the literary and classical courses were originally designed to effect. It is not in this place a question whether the new machinery accomplishes these ends as well as the old, or the contrary. If there is any question, it is whether the colleges should attempt to furnish any machinery at all for the use of those to whom the old is unacceptable, who in any event will reject it, and who, if nothing else is offered, will remain unprovided for at all.

It is not necessary for the undersigned, at the present time to reiterate the convictions which he has so often expressed as to the value of literary culture and classical learning. Modern science, however magnificent the contributions it has made to

the store of human knowledge, has not by any means diminished the value of the knowledge we possessed before. In good letters, there is one quality which science does not possess. In science, a new discovery may sweep away at once a fabric of doctrine most elaborately constructed, and leave its ruins only to be groped after in the future by curious historical antiquarians. Who speaks now of the crystalline spheres, of austral and boreal magnetism, of phlogiston, or of the calorific fluid? The names of Kepler and Galileo and Huygens and Hooke are held in honorable remembrance; but we read astronomy, and mechanics, and physics, and optics, no longer in their pages. But in letters the work of a great genius never supersedes that of his predecessor. It simply takes its place beside it, and both are read and admired and cherished to all coming time. In spite of the dazzling triumphs of scientific investigation in our day, in spite of the multiplicity of substantially valuable gifts which science is showering all around us, and which may not inaptly be regarded as so many seductive bribes offered to our generation to shake their allegiance to the beautiful, the good, and the true, we see the power of transcendent genius manifesting itself at this very day in the almost simultaneous translation into English of the earliest of epic poems known, executed by men who for their own splendid original creations are themselves destined to be hardly less immortal. And America observes with pride, that, honorably distinguished among these, is the veteran poet who was the first among her sons to win in another hemisphere a praise which was bestowed without grudging.

The literature of Rome and Greece cannot be put aside or made to be forgotten of men, because it is not the literature of a people or of an age, but it is the literature of the world and of all time. Nor can the languages of Rome and Greece be thrust out of our halls of learning, or excluded from the course of our superior education, because they are not the extinct languages of a limited spot of the world's surface; they are, in an important sense, the languages of all southern Europe, of England, and of

America. It is a perversion of terms to speak of them as dead languages, and to call upon us to bury them because they are dead. They are not dead but living,* and we cannot bury them, endeavor as we will. They live in our own tongue, they live in our literature, they live in our philosophy, they live in our history, they live in our jurisprudence. When they shall be actually dead, we too shall be dead like them, and other races yet unknown to history shall come here to live among the ruins we have left.

Having always entertained and always very freely expressed the views here set forth, the undersigned cannot be considered faithless to the cause of good letters though he should venture to avow the belief that our literary colleges should, in future, in justice to a large and increasing class of learners, throw open their doors more widely than they have done heretofore, to students whose aspirations are rather scientific than literary. In former communications to this body, the undersigned has exhibited evidence, founded upon a partial examination of the statistics of the subject, which clearly proves that the educational tendencies of our time are such as are here described. A further prosecution of the same statistical investigation, more recently made, serves not only more fully to confirm the truth of the conclusion formerly announced, but also to indicate pretty nearly the point of time at which this tendency first began to produce a sensible impression upon the educational movement of the country. In the annual report of the undersigned made to the Trustees in June, 1866, and in a communication addressed to the same body at their stated meeting in January last, it was shown that the total number of students in American colleges, while, as was naturally to be expected, it has been absolutely increasing from year to year, has been falling off relatively to the total population, certainly since the year 1840, and possibly longer. For the whole country, the statements had to be given in the

* This idea is eloquently enforced in an article in the *Saturday Review* for May 23, 1870, in which the recent classification of studies at Oxford is severely criticized.

lump, since the authorities from which were derived the numbers of students in the several colleges failed to give their distribution according to the states in which they properly resided. It was possible, nevertheless, to compare the numbers furnished at different periods by a determinate group of states, as, for instance, the group composed of New England, New York, and New Jersey; but no records were accessible in regard to any period earlier than 1840, nor were there any authorities at hand to show from what particular states, and in what proportions from the several states, the attendance at each college was made up. This deficiency is to some extent supplied by publications since found to have been made in the earlier volumes of the *Quarterly Register and Journal* of the American Education Society, published for three years (1827-30), at Andover, Massachusetts, and afterwards for ten or twelve years longer at Boston, under the modified title of the *American Quarterly Register*; to which may be added certain statements of later date, published in 1856 in the *American Journal of Education*. From these sources, information which is substantially complete has been derived in regard to the number of students furnished to colleges by all New England, and by each of the New England states separately, in the academic years 1826-27, 1838-39, and 1855-56. For convenience of future reference, the tables in the publications mentioned, which have been used in the calculations which follow, are reprinted in the appendix to this report.* The same particularity of information is not to be found as it respects our own state, or New Jersey, or any other state of the Union. But New England is precisely the portion of the Union in which we should expect to see the ancient and honored system of classical culture most firmly maintaining its ground. It embraces within its limits the college earliest founded in America—it might almost be said the earliest two, since the College of William and Mary preceded the second by but a few years. It was peopled mainly by colonists from England

* See pp. 397-401.

proper, a band of devotees with whom religion was everything, and with whom education was almost religion. It has always been regarded not only as the cradle, but as, in a certain sense, the lasting home of American intellectual culture; and in the growth of our native literature it has contributed a share which, whether measured by volume or by character, is largely in excess of the proportion its population has borne numerically to that of the nation of which it forms a part. The law of movement which we may here detect in the higher education cannot, therefore, to say the least, be less favorable to literary and classical culture than that which must prevail over the country generally. The following tables may enable us to observe this law. In the first are given the numbers of students attendant in colleges anywhere, from the several New England states, in the academic years commencing in the autumn of 1826, 1838, 1855, and 1869. The population of these states severally is also given, as deduced according to the received principles for making such computations, from the general census returns for each decennial period from 1820 onward. The numbers of students have been taken from the tables in the journals above cited, with the exception of those for the year 1869-70, which have been gathered directly from the catalogues of the colleges. The colleges from which the tables of the journals derived their data for 1826 and 1855 were not quite so numerous as those for 1838; but they were the colleges which for the states considered absorbed at those periods almost or quite exclusively the attendance from those states. The errors can amount at most but to a few units in any case, and these errors will be always errors of deficiency, so as to give a view of the condition of collegiate education more unfavorable than the reality. They affect, moreover, if at all, chiefly, and about equally, the first and third of the epochs considered; scarcely to any degree the second; and for the fourth they may be said not to exist. The influence therefore of the correction of errors would not be, as an inspection of the numbers will show, to disturb at all the point of maximum in the curve of

apparent movement, but possibly to modify to some slight degree the curvature before and after that point.

The first fact which, on the inspection of this table, strikes the observer for its singularity is that the number of students from all New England attendant on colleges anywhere throughout the country is not materially greater at the present time than it was in 1838; while the population has in the meanwhile increased by more than 50 percent. A second fact, not less remarkable, will next be noticed, that while from 1826 to 1838 the increase of population was but about one-sixth of the original number, the students on the other hand had become more numerous by nearly one-half. A comparison of 1838 with 1855 and 1869 will further show that, after the date first named, the absolute increase in the number of students was exceedingly slow, while the relative decrease was steady and rapid.

The general inference to be drawn from these data is that, during the earlier period covered by the returns, collegiate education was gaining favor with the people with each successive year, and the number of liberally educated men in proportion to the entire population was becoming continually larger and larger. From 1838 onward, the tendency is seen to be distinctly the other way. It is therefore very evident that, somewhere about thirty or forty years ago, causes must have been beginning to work upon the public mind, which have ever since continued to act with constantly increasing effect, of which the tendency has been steadily to diminish the relative demand for collegiate education in form as previously provided, and to increase, doubtless, at the same time, the demand for a culture not necessarily more superficial or involving less of mental labor in its acquisition, but in its most essential characteristics different. This inference would be drawn from the mere examination of the numbers here exhibited, if we knew nothing whatever of the past history of human progress in our country. But it is strikingly confirmed when we recall to mind that the period referred to was that in which the numerous splendid triumphs of modern science began

POPULATION OF THE SEVERAL STATES IN NEW ENGLAND, WITH THE NUMBERS OF UNDERGRADUATE STUDENTS IN ATTENDANCE ON COLLEGES IN THE UNITED STATES FROM EACH STATE, FOR THE YEARS 1826-27, 1838-39, 1855-56, AND 1869-70 — EXHIBITING ALSO FOR EACH THE RATIO OF STUDENTS TO POPULATION AT THESE SEVERAL DATES

States	1826-27			1838-39			1855-56			1869-70		
	Population	Number of Students	Ratio of Students to Population	Population	Number of Students	Ratio of Students to Population	Population	Number of Students	Ratio of Students to Population	Population	Number of Students	Ratio of Students to Population
Maine...	355,430	139	1:2,557	479,500	168	1:2,851	605,300	278	1:2,141	672,400	293	1:2,295
New Hampshire .	258,900	138	1:1,869	281,450	272	1:1,035	322,000	237	1:1,359	333,500	178	1:1,874
Vermont...	261,745	156	1:1,678	289,500	280	1:1,034	314,220	230	1:1,366	316,000	201	1:1,572
Massachusetts..	573,940	505	1:1,136	710,300	623	1:1,140	1,132,364	696	1:1,627	1,296,560	732	1:1,771
Rhode Island ..	93,417	37	1:2,525	106,400	60	1:1,773	160,510	82	1:1,957	203,200	106	1:1,917
Connecticut.....	288,500	236	1:1,180	307,500	277	1:1,101	413,100	222	1:1,860	558,850	244	1:2,290
Total.....	1,831,932	1,211	1:1,513	2,174,650	1,680	1:1,294	2,947,494	1,745	1:1,689	3,380,510	1,754	1:1,927

to a marked degree to arrest the public attention. That was the era of the invention of the oxy-hydrogen blowpipe,* of the construction of the electromagnet, of the creation of permanent galvanic batteries, of the invention of the magnetic telegraph, of rapidly multiplying applications of chemistry to the industrial arts, and of the introduction of steam as a motive power upon the ocean. It was also the era which presented, directly under the eyes of every man, woman, and child in the land, one of the most magnificent of the creations of science applied to industry — the railroad, with its necessary concomitant, the locomotive. And it is within the clear recollection of every man whose own personal history goes back to that period that that was the era in which first arose in our country that clamor against the value of classical studies of which we have since heard so much, and of which the principal burden seems to be that the classics produce no telegraphs, create no engines, lay down no railways, and turn the wheels of no mills.

The date of the commencement of this outcry may be placed not far from the year 1830. For a time, the noise which it made was out of all proportion to the impression it produced; and hence those collegiate institutions (and they were not a few), which — misled by the anticipation of a demand, which had not yet arisen, for a new education — made haste to prepare to meet it by establishing alternative scientific courses by the side of the existing classical, found generally to their surprise that they had put themselves to trouble to little purpose. Among this number, as the records inform us, was found Columbia College. A scientific course was established in this institution in the year 1830, which was discontinued thirteen years later for want of success.

In the absence of particular statistics for the years preceding and following 1838, it is impossible to fix precisely the point of

* One or two of these brilliant inventions or discoveries no doubt antedated the period spoken of in the text; but this period was that in which, by their rapidly increasing numbers, and their influence upon the progress of the useful arts, they began strongly to impress the public mind.

time at which collegiate education ceased to grow in public favor — which is also the point at which the demand for a new education, till then only asserted to exist, or predicted to be about to arise, became a reality. The differences, however, are so large between 1838 and 1826 on the one hand, and 1838 and 1855 on the other, the movement being also on the two sides of the middle epoch in opposite directions, that we must presume this latter epoch to mark very nearly the true turning point. Since the year 1838, therefore, the demand for the new education has been steadily increasing, without having as yet been systematically and adequately provided for; and it is obvious that it cannot longer be disregarded.

To return once more to the table, the law of movement which we have seen to be indicated for all New England will be found to hold generally for the particular states, two only being excepted, Massachusetts and Maine. In Massachusetts, the decline is perceptible from the beginning, but it was for a number of years so slight as to be only perceptible. The state of Maine, a large portion of which is still covered by the primeval forest, was admitted into the Union in 1820. Its population was largely and rapidly recruited thereafter by immigration, the newcomers being generally hardy pioneers, who constituted the vanguard of the army of civilization advancing upon the wilderness. It is not therefore in the least surprising to find that, during the interval between 1826 and 1838, high intellectual culture was not in large nor even in increasing demand among the rugged inhabitants of that wild region. Nor is it any more remarkable that, after having reached, as a result of these causes, a degree of destitution in respect to the higher education entirely at that time without precedent, the state should have subsequently shown a tendency to improvement, while in all her sister states the progress was simultaneously in the opposite direction. In the curve as it respects Maine there are two opposite points of culmination; and, since 1855, she seems to be falling into the general law. Rhode Island, on the other hand, between 1855 and 1869, seems to

exhibit a slight improvement, but this state is so small that the irregularity observed is of no material significance.

The law of movement which has been here pointed out may be made more obvious to inspection by separating the ratios of the students and population from the remaining figures, and arranging them compactly in a different order.

RATIO OF STUDENTS TO POPULATION IN THE SEVERAL
NEW ENGLAND STATES, FOR THE YEARS 1826-27,
1838-39, 1855-56, AND 1869-70

Years	Maine	New Hampshire	Vermont	Massachusetts	Rhode Island	Connecticut	New England
1826	1:2,557	1:1,869	1:1,678	1:1,136	1:2,525	1:1,180	1:1,513
1838	1:2,851	1:1,035	1:1,034	1:1,140	1:1,773	1:1,101	1:1,294
1855	1:2,141	1:1,359	1:1,366	1:1,627	1:1,957	1:1,860	1:1,689
1869	1:2,295	1:1,874	1:1,572	1:1,771	1:1,917	1:2,290	1:1,927

The following gives also the ratio of the increase of population side by side with the contemporaneous increase in the number of students.

RATIO OF INCREASE IN POPULATION IN THE SEVERAL NEW
ENGLAND STATES, FOR THE PERIODS 1826-38, 1838-55, 1855-69,
WITH THE RATIO OF THE CONTEMPORANEOUS INCREASE
IN NUMBER OF STUDENTS

States	Population			Undergraduate Students		
	1826-38	1838-55	1855-69	1826-38	1838-55	1855-69
Maine.....	1:1.349	1:1.262	1:1.111	1:1.209	1:1.655	1:1.054
New Hampshire	1:1.084	1:1.144	1:1.036	1:1.971	1:0.871	1:0.751
Vermont	1:1.106	1:1.085	1:1.006	1:1.795	1:0.821	1:0.874
Massachusetts..	1:1.238	1:1.567	1:1.145	1:1.234	1:1.117	1:1.052
Rhode Island...	1:1.139	1:1.509	1:1.266	1:1.622	1:1.366	1:1.325
Connecticut. .	1:1.066	1:1.343	1:1.353	1:1.174	1:0.801	1:1.099
New England...	1:1.187	1:1.355	1:1.147	1:1.387	1:1.039	1:1.005

In all New England, it will be seen that, during the first period, the increase of the number of students was considerably more rapid than the increase of the population; during the second period, it was more slow; and during the third, very much more

slow. The departures from this law in the particular states are not remarkable, except in the case of Maine, where the explanation is obvious.

Two considerations have been suggested as requiring that the conclusions which have been deduced from the statistical statements above presented should be received with a certain degree of qualification. The first of these is the known fact that a large number of the young men of our country are annually sent abroad to be educated in Europe. If it could be assumed that all these youths, or even the larger number of them, go abroad to seek an education of the same kind with that which our colleges give, but which they may imagine to be better there of its kind, the argument would have weight. A recent authority, writing to the *Evening Post* of this city, states, as the conclusion drawn from personal knowledge and inquiry within the past year, that scarcely an American can be found in any German *Gymnasium*. We know that there are none or next to none in the French *lycées*. There remain the British universities, where there is always a handful, but probably not so large a number now as there was in the years of our colonial history. The American students abroad are mostly boys attending schools of the grade of our academies, or studying under private tutors; or they are young men of greater maturity, seeking that scientific education which is so amply provided for there, but for which we have as yet done so little. Our conclusions, therefore, are not in the least shaken by any consideration of what becomes of the migratory Americans.

As it respects the influence of the other cause supposed to invalidate the reasoning, that is to say, of the foreign element, some conjecture may be formed of its effect by considering the actual ratio of the foreign- to the native-born population as given by the United States census for the years 1850 and 1860. That this kind of ethnical alloy should be capable of producing, or of contributing to, the effect observed, can only, of course, be true on the assumption that, as a rule, the foreign immigration finds

its place in a social stratum too low to furnish recruits for our superior educational institutions — an assumption which is doubtless in general correct. Keeping this in mind, the following statement will be read with interest.

PROPORTION OF THE FOREIGN-BORN TO THE ENTIRE
POPULATION, IN THE NEW ENGLAND STATES IN
THE YEARS 1850 AND 1860, AS GIVEN BY
THE UNITED STATES CENSUS

States	Percent Foreign	
	1850	1860
Maine.....	5.42	5.96
New Hampshire..	4.49	6.42
Vermont.....	10.76	10.39
Massachusetts.....	16.65	21.13
Rhode Island.....	16.67	21.42
Connecticut....	10.59	17.54

In examining this statement, we observe that, in the three northernmost of the New England states, the foreign element of the population was nearly stationary during the period embraced between the limits, while in the remaining three it was increasing. Among the latter, the increase in Connecticut was most rapid, but the absolute proportion of the element to the whole was largely the greatest in Massachusetts and Rhode Island, in which states the increase was very rapid also. But these two states are precisely those in which (disregarding Maine for the reasons above assigned) the movement unfavorable to collegiate education has, in the recent period, been least strikingly marked; while in Vermont and New Hampshire (Connecticut being for the moment excluded) it is seen to have been most so.

Again, if we take all together the three states in which the foreign element and the increase of the foreign element at the same time appear to be largest, and also the three states in which this element and the increase are both least (the increase in one case indeed being negative), we shall divide the population in the ratio of about five to three; and we shall see that the retro-

grade movement has been sensibly larger in the group least affected by the cause under consideration than in the other. The results are exhibited below.

RATIO OF STUDENTS TO POPULATION IN THE NORTHERNMOST
AND SOUTHERNMOST STATES OF NEW ENGLAND
COMPARED FOR THE YEARS 1855 AND 1869

	1855			1869		
	Students	Population	Ratio	Students	Population	Ratio
The Northernmost States.	745	1,241,520	1:1,666	672	1,321,900	1:1,967
The Southernmost States.	1,000	1,705,974	1:1,706	1,082	2,058,630	1:1,903

It would be desirable, of course, to examine this point with the help of more numerous data, extending, as it respects the foreign immigration, over a larger period of time; but, from the materials we have, it seems to the undersigned sufficiently evident that the social phenomenon we are considering is very real, and that it attaches very certainly to the native population of the country itself.

The question then arises: Should not our colleges begin to recognize a movement of such gravity, and take measures to meet the demand, which is every day growing in strength, for a new form of higher education? Many of these institutions have done so already. This is signally true of Harvard University; and the result of the experiment which that institution has made has shown that she has not mistaken the nature of the need. Since the experiment commenced, fifteen or twenty years ago, the attendance on the undergraduate course in that college has become nearly or quite twofold what it was previously, and the attendance from the state of Massachusetts has increased 50 percent; while at the same time the joint attendance upon the other Massachusetts colleges, Amherst and Williams, has sensibly fallen off, and the joint attendance from the state has diminished accordingly. It is furthermore to be remarked that, while the largest

modifications of the course at Harvard have taken place within the last two or three years, it is precisely within this same period of time that the accessions to her numbers have been most rapid.

It is now about twelve months since a petition was addressed to the Faculty of Columbia College by the members of the Class of 1870, then about completing the studies of their Junior year asking that such changes might be introduced into the program of Senior instruction as to permit individual students to elect to a certain extent the studies which they should pursue. The request was one which it was not within the competency of the Board to grant; nor, on giving the subject some slight consideration, did it appear that the changes desired, if attempted, could be easily made. It was, however, referred to the Trustees for their consideration, but without the expression of any opinion in regard to it, favorable or the contrary.

After the opening of the fall term in October, 1869, the subject was from time to time revived; and, with a view to ascertain, if possible, what would be the actual working of an optional system presented to the Senior class, the suggestion was made that the President obtain from each member of the class a statement specifying the studies which he would desire to pursue, and those which he would prefer to relinquish. This suggestion formed part of a report made to the Faculty, by a committee of that body, who had been appointed to consider what measures ought to be adopted to secure closer attention to study on the part of the Senior class, during the second session of the year, than had been the case heretofore; and the recommendations of this report, having been approved by the Faculty, came subsequently before the committee on the statutes, whose action was necessary to give them effect. Although the result of the inquiry made by the President, in accordance with the suggestion above mentioned, was of little practical value, yet the committee were so far impressed with the desirability of making some experiment in this direction as to adopt a resolution requesting the board of the College to modify, if practicable, the program of instruction, in

such a manner as to permit the members of the Senior class, during the second term of the year, to exercise a certain freedom in the selection of their studies. In compliance with this resolution, a scheme was devised in which the principle of option was introduced as largely as appeared to be practicable without too much deranging the general distribution of time to the several departments, and sufficiently to make it satisfactory to the instructors, and acceptable to the class. During the second term of the year, instruction has been conducted in accordance with this plan; and it is believed that, in consequence of the change, a greater degree of diligence has been secured and a larger contentment, than has heretofore been the case at this period of the academic course.

At the last meeting of the Trustees, held on the first Monday in May, the committee on the statutes were instructed to inquire into the expediency of giving hereafter a still greater extension to the system of elective studies. The committee, it is believed, are prepared to report that, while in their opinion some such extension is advisable, prudence would nevertheless suggest the propriety, in a matter so important, of proceeding with deliberation; and, therefore, that while it would be well to make certain of the studies of the first as well as of the second term of the Senior year optional, it would be wise to await the results of these changes before proceeding further.

It is interesting to examine to what extent the history of particular colleges may furnish evidence to confirm or invalidate the general truth of the conclusions deduced in the foregoing pages from the educational statistics of the country. And such an examination derives a certain importance from the fact that, in the prosecution of the investigation by the aid of general data only, the inquirer finds himself embarrassed by several unanticipated difficulties. It is no easy matter to ascertain, in the first place, how many colleges we have, how they are named, and where they are situated. It might be supposed that on this point the United States census would be a conclusive authority; but the

lists here presented exhibit a number so extraordinary, as to make it obvious at once that no reliance whatever can be placed upon that source of information. An illustration of this fact is given in a note appended to the annual report of the undersigned, made in 1866, where it is shown that, in a few states in which the real numbers happened to be known, the returns embraced twice, or in some instances even three times, as many. The inaccuracies arise from the fact that many institutions of inferior grade, and many which are not literary at all, assume the name of colleges, and are classified by the census officers accordingly. Thus we have commercial colleges, industrial colleges, military colleges, agricultural colleges, and so forth, in which the instruction given is of the most diverse character, aiming rarely to furnish a high or a general culture. Colleges for young ladies are also included in these lists; and although some of these, as for instance the Rutgers in our city, and the Vassar at Poughkeepsie, adopt the full curriculum of collegiate study, they cannot, for obvious reasons, be considered in an inquiry like that which occupies us at present.

The lists furnished by the *American Almanac* during the more than thirty years of its existence, prepared as they were with much labor, afforded a much closer approximation to the truth than the returns of the census; but these were also more or less affected by errors of the same character. The *American Year Book* for 1869 presented a more recent list, in the compilation of which great care was understood to have been taken to secure accuracy; and yet this catalogue embraces many names which have no title to a place in such company, and omits some which probably have.

The *College Review*, a periodical of merit recently established in this city, presents, in its number for the present month of June, a list of the incorporated colleges of the Union, which is stated to be nearly complete. This list was compiled by a gentleman who has devoted a good deal of labor to the work,* and the im-

* Mr. G. Brown Goode, senior editor of the *Wesleyan College Argus*, Middletown, Connecticut.

perfections which it still exhibits must be regarded as illustrating the extreme difficulty which exists of securing, by any exercise of care or expenditure of labor, correct information on a subject which at first view seems so simple. A few of the errors in it are evidently typographical, though somewhat remarkable of their kind. Thus the pioneer of American colleges, founded at Cambridge, Massachusetts, in the seventeenth century, appears as Howard College; and in place of Hampden-Sidney College, Virginia, we find Hampden College, of which the location is given as Sydney, Prince Edward County. More serious errors than these, however, are the introduction of Bethlehem College, at Bethlehem, Pennsylvania, and the omission of the Lehigh University at *South* Bethlehem in the same state; the admission, into the list, of the Rensselaer Polytechnic School, and of the Polytechnic School of Philadelphia (why not also of the Massachusetts Technological Institute?), and of De Veaux College, Niagara Falls; the omission, in the state of Mississippi, of the oldest of the chartered colleges of that state, and also of the youngest, Jefferson and Semple-Broadus (the latter being, however, not less than twelve or fifteen years old),* the omission of Lagrange College, Tennessee, of Sewanee University in the same state, and of Florence University,† Alabama; and the placing of Franklin College, Tennessee, in Nashville. In spite of these inaccuracies, and possibly a few others similar, however, the list is doubtless the most trustworthy which has yet been formed; and it gives the number of American colleges (omitting the colleges of Nova Scotia, which, unless those of the other British provinces are enumerated, seem out of place here, the female colleges, the polytechnic institutes, the colleges for 'colored students, and all those which are separately arranged as being possibly extinct) as amounting to 266. Including the omissions, with the exception of the Nova Scotia

* This institution is not now probably in operation, but as the list professedly gives the suspended colleges as well as those still active, it should have a place somewhere.

† This college is also probably suspended, though it was in operation at the outbreak of the war.

colleges, the total is 290. The total in Camp's *American Year Book* is 285; but after excluding those belonging to the classes above specified, and the military schools, there remain in this list only 224.* A closer acquaintance with many even of these, however, shows them to possess very little of the collegiate character.

Next to the difficulty of ascertaining the real number and locations of the colleges is that of obtaining from these institutions, when known, the desired information. Some of them appear to possess no printed catalogues. Quite a large number print only near the close of the academic year. Applications for such documents remain, therefore, often unnoticed, either on account of the non-existence of the documents altogether, or of their non-existence at the moment. It would seem occasionally as if, because of the design to use them for statistical purposes, which is apparent in the form of the application, they are purposely withholden. To the same cause it may perhaps be attributed that written letters, asking for information on some special points of interest, fail in some instances to elicit any reply. Whatever may be the causes producing this result, it has been found to be experimentally true that, to any circular application for information addressed to considerable numbers, responses cannot be counted upon from so large a proportion as two-thirds of the whole.

Such a circular was sent by the undersigned, in the month of January last, to every one of the 224 institutions in the list of Mr. Camp which seemed from its title to possess the collegiate character. Up to the present time responses have been received from only 137 of this number, and 87 have remained silent.† Of

* Though the numbers in these two lists so nearly correspond, yet they are by no means identical in their details. In the endeavor on the part of the present writer to gather information by correspondence and the issuing of circulars, Mr. Camp's list has been used as a guide, that of Mr. Goode, published in the *College Review*, not having appeared sufficiently early to be used for this purpose.

† A number have remained persistently silent under repeated applications.

the institutions responding, 6 have sent only a prospectus without names or numbers; and of 28 more, the students are so mixed that it is impossible to classify them. To this number belong most of the Roman Catholic colleges, which are made up chiefly of boys pursuing elementary studies. Besides these, however, there are a few of high grade, like, for instance, the University of Virginia, in which professional and special students, who largely predominate, are so thrown together in the lists with the students of arts that separation is almost impossible; and it has therefore been made uncertainly, but with design to throw the error if any upon the liberal side. Disregarding those of which nothing, for the present purpose, can be made, there remain, among the institutions from which returns have been received, 103 which may be regarded as true colleges; and in these altogether are found at the present time 9,461 undergraduate students, being an average of 92 undergraduates to each.

The immediate object for which this information was sought was to ascertain exactly the number of young men belonging to the New England states, and the states of New York, New Jersey, and Pennsylvania, now actually in attendance as undergraduates, in the colleges of the United States anywhere. An abstract was therefore made from the catalogues, in which the numbers belonging to the several states above named, in each college, are separately exhibited. It will be obvious from an inspection of this abstract, which is appended to the present report,* that, while there are everywhere large and small colleges side by side, yet the average attendance of students of arts is much larger in the colleges of the northern and eastern states than in those of the southern and western. There are, for instance, twenty-eight colleges in the list belonging to New England, New York, and New Jersey, some of which are numerically quite feeble; yet, altogether, they embrace not fewer than 4,044 students of arts; giving an average of 144 students to each. The remaining seventy-five colleges of the list have among them only

* See pp. 400-401.

5,417 students, giving an average of 72 to each, which is just half as great.

From these data, it is possible to form a probable estimate of the number of students in attendance in the eighty-seven institutions which have not responded to the circular. In the first place, we must assume that replies from these, if they had been received, would have shown quite as many of them, in proportion to the whole, to be schools below the grade of colleges, as we have found among those which have answered. Hence, of the eighty-seven, only about sixty-five are to be regarded as properly colleges. And if these have the same average attendance of students in arts as the seventy-five which remain in our list after the subtraction of the northeastern colleges, their aggregate attendance must amount to 4,680; which, added to the total of the list, gives, for the whole country, 14,141. There can hardly be a doubt that this estimate is in excess; since many of the colleges which have failed to respond are very obscure, many are of recent creation, and some are probably not at present in operation. If we assume, what is likely to be nearer the truth, that their average attendance is only about 60, they will embrace in the aggregate 3,900, making the total number of students of arts in the colleges of the entire country at the present time 13,361. But in 1860 this same total attendance amounted to 13,661; so that, if this estimate is correct, there has actually been a diminution in the aggregate attendance upon the course of arts in American colleges, during the last ten years, though the population of the country has in the meantime increased 33 percent. And even if we adopt the aggregate previously obtained, which cannot be below the truth, the increase in the number of students since 1860 will be found to be little more than nominal, being in all hardly 500.

For convenience of comparison, the total white population of the country is given below for the three epochs, 1840, 1860, and 1869, with the total number of students at the same time, and the ratio of students to population. For the first and second of these dates, the numbers are the same as those which were presented

in the report of the undersigned made to this board in 1866. The population for 1869 is conjectural, but is probably not excessive; and the manner of arriving at the number of students for this year, which is given above, is likely to lead to an error of excess rather than of deficiency.

TOTAL WHITE POPULATION OF THE UNITED STATES, WITH
THE TOTAL NUMBER OF STUDENTS AT THE SAME
TIME, AND THE RATIO OF STUDENTS TO
POPULATION, FOR THE YEARS 1840,
1860, AND 1869

	1840	1860	1869
Population... ..	14,582,029	27,490,266	36,000,000
Students.....	9,416	13,661	14,141
Ratio.....	1:1,549	1:2,012	1:2,546

Thus the number of undergraduate students in the colleges has not only been diminishing, relatively to the population of the country, for the last thirty years, but the diminution during the last ten has been the most remarkable.

Another fact which will attract attention, in examining the details of the list of colleges above spoken of, is the enormous *total* attendance of students of all descriptions in some institutions called colleges, especially in the West and South, in which the students of arts amount hardly to a score. On referring to the published catalogues of these institutions it is found that many of them embrace preparatory schools of several successive grades of advancement: commercial schools, English high schools, industrial schools, and so on; and that, in a very large number of them, young women are pursuing their studies in the same classes with young men in all departments alike, including the collegiate — often in fact outnumbering their classmates of the other sex. In preparing the table, the attempt was made to number only the male students in the department of arts; but this has not perhaps been always successful, since the names are usually recorded without any method, and of many of them the Christian names are indicated only by initials. In order not to err on the side of

deficiency, all names not spelled out are assumed to belong to males. In including institutions of this description in the list of colleges, it is evident that we have to exercise a large liberality.

The absolute total attendance of students of every description in the colleges of the list amounts to 27,054; which is equivalent to an average of 265 each. And here there is no longer the wide discrepancy, as it respects numbers, between the northern and eastern colleges on the one hand, and the southern and western on the other, which was observed in comparing the students of arts. The average total attendance of the twenty-eight eastern colleges considered separately above amounts to 281. The average total attendance of the remaining seventy-five is 255. But in the *grade* of the students attending, there is the widest difference between these two groups of colleges taken as wholes. In the eastern colleges, the students not in the department of arts are in general of a grade superior to college students; in the western, they are generally inferior. This circumstance is not without its significance when these two classes of institutions are compared with each other.

In order to ascertain how far the statistics of particular colleges corroborate the conclusions drawn from the general educational statistics of the country, it is necessary that we should know the condition of such selected institutions at different, and if possible distant, points of time. The growth or decline in numbers of any single college could not, of course, be regarded as being necessarily indicative of the direction or rate of a general movement, since the result observed may be due to causes merely local, or causes existing within the institution itself; but when many colleges appear to be simultaneously affected in the same way, the phenomenon becomes significant. It is true that the law of growth of existing colleges may occasionally be disturbed by the erection of new ones competing for the patronage of the same public; and in this case the significance just spoken of may be diminished. But if there is any part of the country in which this disturbing cause has not for many years sensibly interfered, the facts disclosed by an inquiry limited to such a district may be

regarded as affording a basis for some inductions worthy of attention. New England is precisely such a district. Within the last fifty years, only four new colleges have arisen in all New England, viz., the Wesleyan University, in Connecticut, in 1831; the Norwich University, in Vermont, in 1834; Tufts College, in Massachusetts, in 1850; and Bates College, in Maine, in 1864. In the meantime, the population has more than doubled; so that had there been a dozen new colleges erected instead of four, this cause occurring alone would not have sensibly diminished the attendance on those preëxisting. Due consideration being given to this fact, the numbers in the following table, which exhibits the total attendance at each of the colleges of New England, and the total at each from its own state, for the four different epochs which we have been previously comparing, will be examined with interest:

UNDERGRADUATES IN ATTENDANCE UPON THE SEVERAL COLLEGES
OF NEW ENGLAND, IN THE ACADEMIC YEARS 1826-27, 1838-39,
1855-56, AND 1869-70, WITH THE NUMBER PRESENT IN EACH
FROM THE STATE IN WHICH THE COLLEGE IS SITUATED

Colleges	Date of Organization	Total Attendance				Attendance from Same State			
		1826-27	1838-39	1855-56	1869-70	1826-27	1838-39	1855-56	1869-70
Harvard.	1636	196	216	365	563	170	161	258	372
Yale	1700	329	411	473	518	149*	158	125	146
Brown	1764	95	183	223	159	28	42	68	81
Dartmouth	1769	165	301	258	289	97	182	129	119
Univ. of Vermont..	1791	58	102	103	45	47	74	79	40
Williams	1793	85	135	224	159	51	56	69	43
Bowdoin	1802	110	113	186	132	86	95	154	118
Middlebury	1802	87	123	75	54	48	81	52	38
Colby	1820	51	73	63	45	39	46	54	43
Amherst	1821	170	189	218	255	109	116	113	118
Trinity	1821	48	81	72	83	20	34	22	25
Wesleyan	1831	..	103	116	153	..	21	22	19
Norwich	1834	..	57	83	36	..	29	17	22
Tufts	1850	..	..	32	50†	..	..	10	34
Bates	1864	..	..	..	76	..	..	..	60

* The attendance at Yale College from the state of Connecticut has at times varied largely within a few consecutive years: in 1824-25 it was 178; in 1825-26, 159. It seems to have been greatest in 1835-36, when it was 194; in 1836-37 it fell to 184; in 1837-38, to 148; and rose in 1838-39 to 158, as in the table. It seems to have reached the lowest point in 1865-66 when it stood at 114.

† The classical students only, there being thirteen scientific, besides.

Fifteen colleges are embraced in this table; but of these the statistics of twelve only are sufficiently extended to serve as a basis of induction. Of these twelve, it will be observed that there are seven which show a smaller total attendance at present than formerly. All these also, except Brown, show a marked diminution in the attendance from their own states. Of the remaining five, Trinity stands sensibly where she did thirty years ago, though her home attendance has somewhat diminished; and Harvard, Amherst, Yale, and the Wesleyan have increased, Harvard the most largely of all. In respect to home attendance, there is only one of all the twelve, viz., Harvard, in which the increase is considerable; and there are only two beside in which there is any increase at all. In one of these, Amherst, the increase is merely nominal; in the other, Brown, it is not large, though it has been progressive from the beginning.

The attendance in 1855, in all these twelve colleges together, was 2,376; and in 1869, 2,455; showing a gain on the whole of 79, which is equivalent to a little more than 3 percent; the population of New England having in the meantime increased at a rate five times as great. If we leave Harvard University out of the question, we shall find an actual decrease in the aggregate of the remaining eleven, amounting to 113, being equivalent to a loss of 6 percent. This, moreover, is true, notwithstanding the remarkable fact, which may be verified by an examination of the table above referred to as appended to this report, that there is an attendance, the present year, in the colleges of New England, from states not belonging to New England, 898 undergraduate students, while New England herself is furnishing only 67, in all, of the colleges of all the rest of the country. Yale College alone has a present attendance from beyond the limits of New England nearly five times as great as the total number sent to other states for education from all the New England states put together. The numbers are respectively 314 and 67.

The fact just noted — that, if Harvard University be left out of the question, the joint attendance on the remaining eleven

colleges under consideration has actually diminished within the past fifteen years — is one deserving of further attention. In comparing, indeed, the present condition of New England colleges with the past, with the view of deducing from the comparison any inference in regard to the growth of a popular demand for a new form of higher education, it is eminently proper that Harvard University should be left out of the question, since it is within this very period that that institution has been progressively more and more completely identifying herself with the cause of the new education, and more and more liberally enlarging her facilities to give it. In so far, therefore, as the demand which is the subject of our inquiry is real, it ought at the same time to promote the prosperity of Harvard University, and to check that of the rest; and, if we see these two opposite effects actually occurring together, the argument in favor of the reality of the cause acquires double force. But if, without regarding this circumstance, we take the general aggregates for the two epochs compared, these two opposite but equally legitimate operations of the same cause mask each other, and tend to a certain degree to conceal the existence of the cause itself. It is hardly necessary to point out how entirely the deductions from particular facts like those here exhibited confirm the conclusions previously arrived at from a more general view of the educational statistics of the country.

These conclusions have been presented, not because it has afforded the undersigned any particular gratification to have reached them. It is matter indeed for grave doubt whether the moral and social phenomenon we are considering is one on which our age and generation can be justly congratulated. We cannot be permitted, however, to disregard such phenomena when they present themselves. Upon every practical subject the facts concern us seriously, whether we like them or not. And as the truths which time silently discloses, even though unwelcome, must be recognized and distinctly uttered sooner or later by somebody, it has fallen to the undersigned in this case to be the interpreter

of events which he accepts as he finds them, but which he would not be understood to contemplate with entire satisfaction, or even without some serious concern.*

JUNE 5, 1871

In the last annual communication of the undersigned to the Trustees, evidence was presented, derived from a pretty extensive examination of the statistics of collegiate education in the United States, showing that the colleges, in insisting upon the pursuance of an invariable curriculum of study by all their students, are not satisfying the demands of the age as it respects the higher education. The question was then discussed as a question of pure statistics, with a view to ascertaining, if possible, what is the estimation in which the education furnished by the colleges is held by the people at the present time, compared with what it was earlier in the century. The result of the inquiry, however it might turn out, did not necessarily involve anything beyond. Should it appear that the colleges at present attract a smaller number of students in proportion to the population than formerly, and even that this proportion is sensibly diminishing as years go by, it is still free to those who believe that the system cannot be materially improved to ascribe this to popular error, and to hope, and to profess to anticipate, that this error, like many caprices of which precedents may be found perhaps in history, will presently pass away. To such the results actually reached in the inquiry will probably be unwelcome, but will fail to suggest the propriety of any modification of the system itself.

There are those who hold with some reason that the popular judgment of systems of education is not to be trusted; but none can wisely claim that it ought not to be regarded. No scheme, however judicious, can be successful, in a country where choice is free, unless the people can be made to see that it is judicious. To a community without education, or but imperfectly educated,

* Report for 1869-70, pp. 32-64.

the value of education of any kind is not very obvious. And hence it is that this is one of the subjects of great public interest, of which it is unsafe to trust the regulation to the ordinary law of supply and demand. Limitation of knowledge is not, like deficiency of food, attended with a craving for a larger supply. It is characteristic of ignorance, on the other hand, to be content not to know; and of partial information, to be puffed up with the conceit that there is little more to be known. The relations of men to each other in civilized society render certain descriptions of elementary knowledge necessary to all; or at least cause the absence of such humble knowledge to be felt as a positive inconvenience; and so far as this may extend, but only so far, we may presume that education will be provided in obedience to a spontaneous popular demand. But a high order of education is not the necessity of the many, and the want of it can never be felt by them as a personal want. Still less are the multitude likely to feel the importance to the commonwealth that there should be an order of educated men superior to themselves. On the other hand, the popular feeling is instinctively opposed to the growth of such an order, or to any order which breaks the dead level of uniform mediocrity. This is well illustrated in the history of educational institutions in a number of the more recently formed states of our Union, in which provision for the higher education has been made by means of endowments granted by the general government, but entrusted for their administration to the legislatures of the states themselves. In cases which have fallen under the personal observation of the undersigned, the colleges, though costing the people nothing, have been subjects of constant denunciation by demagogues as nurseries of aristocrats, their halls have been but meagerly attended in spite of attractions which ought to have filled them with throngs, and their endeavors to fulfil their mission have been rather tolerated than sustained by the people.

The fact, then, regarding the higher education, is not that the demand creates the supply, but that the supply determines the

demand. Superior educational institutions are provided either by governments or by the thinking few; and these, by the offers which they hold out, and by the visible results which they produce as illustrated in the subsequent history of those who avail themselves of their advantages, slowly educate the people to an understanding of the value of education — of the value of education in general, and of the value of the form of education furnished, in particular. So long as this form of education seems to fit men best to meet with and master the practical problems presented by the age in which they live, whether these be political or social, industrial, moral, or purely intellectual, so long will it be preferred, and so long will the public preference for it be manifested in the increasing numbers of those who seek its benefits. If, in the changing conditions of society, systems of education remain wholly unchanged, there is reason to doubt whether the training which was once perfectly adapted to the circumstances can continue to remain so. And its want of adaptedness to the new exigencies of life, or its positive defects, cannot fail to be detected by the people, through the application of the same criteria by means of which they learned to value the higher education at all. As, therefore, the practical success of educational systems and of educational institutions, in a country where, as before remarked, the choice is free — where government, that is to say, does not step in to control the will of the individual — must depend upon the favor voluntarily extended to them by the people, the evidence of a great and decided change in the popular estimation of a system long established and long undeniably favorite compels the inevitable conclusion that this system requires modification. No theory can stand against a fact like this. It is idle to prove to a people that they ought to prefer a species of culture which, upon evidence satisfactory to them, they have deliberately made up their minds not to prefer.

The change in respect to the popular appreciation of the system of collegiate education, in form as hitherto conducted in our country, indicated by the diminished attendance upon the

colleges, is too great to be treated as an accidental irregularity; and it has been steadily progressive for so long a time that it can be attributed to no passing caprice. Taking the whole country through, the number of undergraduate students in all the colleges is less at the present time in proportion to the entire population, than it was thirty years ago, nearly in the ratio of two to one. From New England, where collegiate education has always been more highly in favor than anywhere else, the number of undergraduate students sent to the colleges within and without New England is not greater by one hundred in all at this time than it was in 1838. It is even considerably less, if, at both dates, we leave out Harvard University—an institution which has received, within the last few years, a rapid and surprising increase of numbers, as an apparent consequence of having abandoned the distinctive feature of the collegiate system of instruction, i.e., the invariable curriculum of study. In all New England, there is not a single considerable college in which the attendance from its own state has not fallen off in recent years, except Amherst, where it has not increased, though the population has increased largely, and Harvard, in regard to the exceptional prosperity of which the probable reason has just been suggested.

In regard to our own state of New York, we have not the means of ascertaining, for former years, how many young men have been sent to colleges beyond the state limits, or how many from other states have attended our own; but the comparison of the total attendance upon the colleges of New York at different periods exhibits results entirely in harmony with those derived from New England. Taking up, for instance, entirely at random, the *American Almanac* for 1848, we find that the colleges of the state of New York, then six in number, viz., Columbia, Union, Hamilton, Madison, Geneva (now Hobart), and the New York City University, embraced for the year preceding 940 undergraduate students; while in 1869–70, the total attendance of students in arts in all the colleges, now increased to twelve in number, viz., besides the above-named, Genesee, Rochester,

St. Stephen's, Cornell, Alfred, and the College of the City of New York, was only 1,034; an absolute increase of 94, or 10 percent only, while the population of the state during the same time increased not less than 50 percent.

If, in connection with facts like these, which illustrate the declining favor with which that system of collegiate education is regarded which makes adherence to an invariable curriculum of study its distinctive characteristic, we consider the success of those institutions which offer to their students a considerable latitude of choice in the selection of their studies, we shall see that it is not an inferior grade of education which the popular voice demands, nor a diminished amount of exaction. It is rather that education shall be varied to suit the varying capacities of individuals; and further, that, in place of limited and necessarily superficial attainment in many things, there shall be thoroughness, or at least the opportunity for thoroughness, in a smaller number. The throng which has filled the halls of Cornell University from the first day of their opening has been gathered mainly by the opportunity thus offered. And though the education furnished by some of the schools of that institution is not what can be properly called liberal, yet, setting these schools aside, the truth still remains that Cornell University, in the third year of its existence, outnumbers any three of those of the colleges of the state which have been in existence half a century. The University of Michigan furnishes an example almost equally striking, which has been in evidence for a much longer period. This institution numbers at present nearly five hundred students in its undergraduate department. But the most remarkable illustration of the same truth is probably that which is to be found in the case of Harvard University, already mentioned; especially when considered in comparison with the sister institution next in age (in New England) and her most prominent competitor, Yale College. These two institutions have, for many years, appeared to divide pretty equally the popular favor. But while the first is exhibiting at the present time a growth more vigorous than has

marked any former period of her history, the second is nearly stationary. The average undergraduate attendance of Yale College for the last five years (including the present) has been 513. Her catalogue for 1870-71 gives the present attendance at 522; but the total for 1860-61 — ten years ago — was almost exactly the same, viz., 521. The increase at Harvard in the meantime has been nearly 200.

These facts have, within the last few years, attracted the attention of the alumni of Yale College, and have excited their serious concern. Evidences of this have appeared in the proceedings of the society of the alumni, in which body vigorous efforts have been made to effect certain changes in the organic law of the institution itself. And the journals of the day have at times been deluged with controversial articles put forth by both parties to the serious question thus raised. But, in all the noise of this controversy, the real issue has not apparently once been distinctly touched. The party of progress, or of reform, demand that the supervisory board shall be so reorganized as to give to the alumni a voice (and nothing probably would satisfy them short of a controlling voice) in the management of its affairs. They refrain from announcing what they would do if they possessed this control, or what they will do after they get it, of which they by no means despair; neither do they attempt to define specifically in what manner the present governing board fail to manage the affairs of the college satisfactorily. They simply argue vaguely that the individual members who compose this board are inappreciative of the true interests of the college, and that the profession to which most of them belong unfits them for the practical business of life. It is impossible to misunderstand what is behind all this. The present governing board of Yale College is eminently conservative. It is indisposed to admit any material modification of the established plan of instruction; and although the state of Connecticut sends to colleges out of the state more than a third part as many students as she sends to Yale College, that fact occasions no alarm so long as other states send back more than seven

times as many in return. This condition of things furnishes a very obvious explanation both of the fact of the agitation and of the manner in which it is conducted. If the present board could be counted on to accomplish the reforms which are asserted to be necessary without being distinctly indicated, there would be no occasion to complicate the question by asking for a change; and since the board cannot be reconstructed without its own consent and coöperation, it is advisable to say that although reconstruction only is spoken of, nothing less than revolution is intended.

The interest of this struggle, to observers watchful of the progress of public opinion in educational matters, is found in the evidence it exhibits that the discontent with the collegiate system which has been shown to exist is not, as there might be room to suggest, the discontent exclusively of incompetent judges, of the uneducated, the practical, the industrial or the commercial, but is the feeling of a great body of men who have themselves been trained under this system, and are personally acquainted with it in all its details. It is true that the innovating party cannot with justice be said to embrace all the alumni; but the indications are very clear that it comprehends a great majority of them; and the movement is so formidable that the thought of resistance *à outrance* seems to have been abandoned. In the recent message of Governor Jewell to the legislature of the state, it is proposed that three of the six representatives of the state senate in the board shall give place to as many members elected by the alumni, to hold office four years. This is not all the reformers ask, but thus much, apparently, the conservatives are willing to concede; and to this extent it may be assumed that the movement is already successful. Some years may perhaps be necessary to develop the consequences which this first success may draw after it; but it is a prediction which may be safely hazarded that it will not prove wholly barren.

The reasons which were once thought conclusive in favor of an invariable curriculum of study extending through the col-

legiate course have many of them at present lost their principal force. The first and chief of these was that the object of collegiate training is so almost exclusively mental discipline, and so little the imparting of useful knowledge, as to make a uniform system of instruction a logical necessity. It is not what a young man *likes* to study — that is the argument — but what he *needs* to study, to which his attention should be directed. Very probably what he likes least he will need most, and to give to him freedom of choice will be to defeat the ends of his education.

The force of this argument depends upon the assumption, which is always made, and which thus far has never been in terms distinctly contradicted, that the entire college course is or ought to be a course of mental discipline strictly, and nothing else. However justifiable this assumption may have been fifty years ago, it can by no means be admitted at the present time, without, at least, important qualification. The mental powers cannot, it is true, be exercised without improvement upon any subject, or at any period of life before the commencement of natural decline; and in this sense we may say that we are always under mental discipline. But the discipline which we properly distinguish as educational is something different from this. It may be defined or explained somewhat as follows:

There is a period of early life during which, without any artificial and intentional culture at all, the powers of the body and those of the mind simultaneously unfold themselves. During this period, if certain muscles of the body or certain of its limbs be kept in incessant activity, and certain others in continual repose, the result will be an abnormal and possibly a monstrous growth. But if the child be allowed to grow up under ordinary conditions, so as to reach adult years with tolerably symmetrical proportions, the subsequent effect of unequal activity of the different members of the body will no longer be an unnatural development, or a marked disturbance of the balance of the physical powers; but rather a greater skill or aptness in the use of those which are most employed. Nor, even in regard to this, is

use or practice or exercise, after a very early period of life, sufficient to produce results which, while the system is still plastic, are accomplished almost imperceptibly and with infinitely less effort. There are arts, such, for instance, as glass blowing, which can never be mastered except by persons who have grown up to them from early childhood. And no fact is more familiar than the facility with which the pronunciation of foreign languages is acquired by infantile lips; while it is a hopeless undertaking for an adult, no matter what amount of practice and perseverance he may expend upon the effort, perfectly to master the same accomplishment.

Now precisely the same law holds true in regard to mental development. As there is a period of infancy during which the child is incapable of supporting his own weight, so there is one in which he is hardly conscious of his own existence. And as, with the physical growth, the organs of the body acquire strength and come by degrees under the control of the will, so correspondingly, in the natural and quite spontaneous growth of the mind, the faculties unfold themselves and expand into vigor, in simple obedience to the principle of development divinely implanted in the soul in the moment of its birth. With the progress of years, this growth goes on; and the mind, like the body, attains an adult stage, whether it be subjected to external influences controlling its habits — that is, to educational influences — or not. There comes a time, at last, beyond which educational influences are proverbially vain. There is another period, the earliest of all, in which they are almost omnipotent. This is the period during which, in obedience to nature's law, the faculties are growing, and when the educator may force them to grow into any mold which he may choose to throw around them. But when expansion has ceased, molds will be placed in vain: the mind will retain the contour which nature and circumstances have given it; and from this point onward the business of education is no longer to form it, but to make the most of what it is. There is here doubtless room for the educator to do

much; but his business is to give fair play to the faculties such as they are, and such as they must continue to be, rather than to repress the salient characteristics and waste both precious time and weary labor in the endeavor to bring out others which have lost the power to respond to the solicitations of the cultivator.

Now it can hardly be doubted that the average age of undergraduates in our American colleges is more advanced, at present, by several years, than it was a century ago. At the admission of students into Columbia College, record is made of the age of each candidate at his last preceding birthday. Of the students of all the classes at present in college, the average of the ages thus recorded is sixteen years and nine months; and, as this is the average at the birthday preceding admission, it may fairly be concluded that, at the time of admission, the average age exceeded seventeen years. The average age at graduation is therefore twenty-one years, or the age of manhood complete. Until within the last six or seven years, the matriculation books of the College have contained no record of the ages of the students. It is impossible, therefore, from this source, to obtain any information as to the average age of admission into this College during the last century. Quite a number of instances have, however, come to the knowledge of the undersigned, in which individuals entered the College as early as twelve or thirteen, and graduated at sixteen or seventeen. Possibly these were extreme cases; but no such case could be possible at all at present, since the statutes prohibit the admission of any student below fifteen years of age. Suppose then the average age at that early period to have been thirteen or fourteen years. That is already three or four years below the present average; and three or four years taken at the very time of life when the mental as well as the physical organization is losing its plasticity and attaining its ultimate form as well as stature. It is a question well worth considering, whether a plan of education which might be admirably adapted to the circumstances of boys between twelve and sixteen

could possibly be equally suitable for young men between seventeen and twenty-one. For the first class named, there might be reason in demanding that the entire course should be shaped with a view to mental discipline only. As it respects the second, there is no less reason for requiring that a principal object should be to impart knowledge for the sake of knowledge itself. And though this should not be the governing object throughout the whole course, it ought at least to give character to the later years.

A second reason why it is no longer expedient to treat collegiate instruction as being designed exclusively for mental discipline, in contradistinction to the acquisition of knowledge, is found in the fact that it is no longer practicable to do so. While the subjects taught in college were few, and, with the exception of the pure mathematics, were purely literary, it was not difficult to prosecute them so steadily and so far as to make them instruments of a real mental discipline. This is no longer the case, especially after the first two years. The curriculum has been so overloaded by gradual additions that, if now an equal distribution of the available time were made to the several subjects of study, each one could command but two or three weeks. This surely is not sufficient to make of any study an efficient instrument of mental discipline. Nor is the expedient by which the several subjects, instead of being successively disposed of, are spread out over the surface of a whole session or a whole year, being alternated in such a manner as to separate the hours devoted to each by considerable intervals, sometimes by several days, one which is likely to increase its efficiency. It has been claimed for our American college system that, in departing from the type on which it was originally constructed, as it has done by the large extension of its curriculum, it has been materially improved; and this is true if we regard its principal aim to be to impart knowledge; but it is by no means so if we consider it as designed mainly for the discipline of immature minds. Under the arrangements actually existing, and in present

circumstances unavoidable, it is impossible to confine the attention of the student with steadiness to any particular subject; and without some such steadiness of effort the benefit of study cannot be subjectively great. It is true that diversity of labor, under proper limitations, is beneficial, and is in fact indispensable to the attainment of the important educational end of a well-balanced mental development; but it is evident that such a diversification may be carried so far as to result rather in a dissipation than a healthful exercise of the mental powers. Our college system may not have reached this extreme; but it is not necessary that it should reach it in order that its usefulness for its original object may be seriously impaired.

A third reason why it is desirable that our colleges should cease to insist upon an invariable curriculum of study throughout the whole extent of the educational course is to be found in the fact that we have no other institutions but these to supply to American youth that advanced training which in Europe is furnished so abundantly by the universities. We profess to comprehend in our teaching nearly every subject of human knowledge; but we are scarcely able to pursue a single one beyond its elements. The majority of our students do not become so proficient, even in the classical tongues, as to be able to read with facility the works of classic authors which they have not read before; and yet these are subjects in which they are required to be tolerably versed before they enter the college. The only expedient by which it can be made possible for an individual to pursue any given subject to a greater extent, and to attain to greater thoroughness in it than at present, is to permit him, at some period of the course, to devote himself more uninterruptedly to this, and to relinquish other subjects in its favor. Supposing such a freedom to be generally allowed, the tone of the teaching in all the departments of the college will be necessarily raised, and will be to some extent assimilated to the teaching of the European universities. Those colleges which peculiar circumstances, such as the possession of large resources, or of a

wide and well-established reputation, conspire to favor may be able at length to place themselves entirely upon the level of those celebrated foreign institutions. It is probably only by some such gradual transformation of existing institutions that we shall in this country ever be able to realize the ideal of a continental university. Projects innumerable have been set on foot looking to the independent erection among us of such grand and costly educational establishments; but so long as the highest institutions of this description which we have already, in spite of all the influences, political, denominational, sectional, and personal, which can be combined in their favor, continue to be struggling against the difficulties which limited means entail upon them, it is idle to expect that such schemes can succeed, and it would be a manifest wrong if they could. What the country now needs most is that the colleges should be supported and strengthened; what the colleges need is such improvements in their plan of operations as shall regain for them the confidence and favor of the people of the country, and shall enable them, or some of them at least, to supply that deficiency in the system of our superior education which, if not supplied by them, can hardly be supplied at all.

There can be no doubt that a considerable reason why the average age of students in American colleges has become so materially advanced within the last half century is to be found in the great improvement within that time of the secondary schools. Fifty years ago, almost the only superior schools below the colleges to be found in the country were those which were devoted to the preparation of boys for entering college; and in these very little was taught beyond the ancient languages. Now, the academies of the state of New York and the schools of corresponding grade in most of the northern, middle, and western states give instruction in as large a range of subjects as the colleges themselves. They differ from the colleges in permitting to their pupils the largest freedom of choice in the selection of their studies, and in limiting attendance to no determinate period

of years. Some of them, perhaps most of them, have established what they call "a graduating course of study," corresponding to the college curriculum, at the close of which they grant certificates of proficiency, or diplomas, to those who have completed the course; but these certificates confer no rights or privileges, and, though often representing an amount of attainment equal to that of many college graduates, do not carry with them a prestige like that which accompanies a degree in arts. Academies conducted on this plan have all the characteristics of the ordinary college, with the elective system added. Except as to this additional feature, and in being open to both sexes, they do not differ in any material respect from the average college of the country. There are unquestionably academies in the state of New York which, considered as educational instrumentalities, are immensely superior to many institutions elsewhere, which in virtue of a name and a charter are entitled by law to take rank above them. In the list of the subjects taught in these academies, there is not one wanting which is to be found in the curriculum of the average college of the United States. This will be apparent from the following enumeration derived from the last *Annual Report* of the Regents of the University. Omitting the elementary branches, as being of course taught, we find in this enumeration the following, viz., under *mathematics*, alphabetically arranged: algebra, astronomy, calculus, conic sections, engineering, geometry (analytical geometry, descriptive geometry), levelling, natural philosophy (i.e., physics in all its branches), navigation, perspective, surveying, and trigonometry; under *ancient languages*: Grecian antiquities, Greek, Latin, mythology, and Roman antiquities; under *modern languages*: French, German, Italian, and Spanish; under *natural sciences*: anatomy (physiology, hygiene), botany, chemistry, geology, meteorology, mineralogy, natural history, technology, and zoölogy; and finally, under *moral, intellectual, and political science*: Christianity (evidences), constitutional law, criticism, general history, history of literature, history of the United States, intellectual philosophy,

logic, moral philosophy, natural theology, political economy. the principles of teaching, and rhetoric.

Of this system and this program, the Regents of the University, in their eighty-first *Annual Report*, remark as follows:

Though these subjects are voluntary with the scholar, and he is permitted to exercise an almost unrestrained freedom of choice. many pursue them all, while others select those to which their peculiar taste prompts them, or which the expected employments of life seem to demand. Young men have often thus been brought from the humblest position in life to commence their studies without any design or expectation of making them exclusive; but as their intellects have been developed, and their desire for knowledge strengthened, they have successfully grappled with difficulties, every new struggle giving them additional power, until the highest means of education have been reached, and they have gone forth into the world to grace the most honorable and responsible positions in society.

The academies of the state of New York fulfil a double function. They are at once schools of elementary training and schools of superior culture. In the advantages of elementary instruction which they offer, all their pupils more or less participate; the higher instruction benefits a more limited number. Were they restricted solely to this superior function, they would occupy the grade and perform substantially the work of the German *Gymmasia*. And that portion of their pupils who pursue the higher course of study correspond approximately in respect to age with the student body of the colleges as we may presume it to have been from fifty to one hundred years ago. We find, in fact, that of the total number of pupils who were, at one time or another, in attendance upon all the academies of the state in 1869 (the year embraced in the last published report of the Regents) — a total exceeding thirty thousand — about one third part, or over nine thousand, were engaged in pursuing classical or higher English studies; and the average age of this portion is given at sixteen years and four tenths. This is the average age of students in a college in which the course of study covers four

years, and the students enter as Freshmen between fourteen and fifteen.

The total number of the academies in the state, according to the report just cited, is 224; but of these there were only 198 from which returns had been received. The numbers given above ought perhaps therefore to be increased about one-eighth. But these numbers, being the aggregates for the year, should be checked by the reports of average daily attendance. The average daily attendance in 198 academies was 13,382; and the average daily attendance of the higher class of pupils would accordingly be reduced to 4,057; so that if allowance be made for academies not reporting, it may be stated, in round numbers, at 4,500.

The existence of a class of schools of this high character, in which perfect freedom is allowed in the choice of studies, cannot but have had something to do in turning away students from the colleges which (in their programs) profess to teach nothing more, but in which the choice is completely fettered. It is in this manner only that a satisfactory explanation can be found of the fact that the state of New York furnishes to the regular colleges of the country a very exceptionally small number of undergraduate students in proportion to the aggregate population. Since the last annual report of the undersigned, the returns of the ninth census of the United States have been published, so far as the total population of the several states is concerned. From these it appears that the population of the state of New York amounts at present to 4,374,499. From the collected catalogues of the principal colleges of the Union, amounting to more than 150 in all, it appears that the total number of undergraduate students in the department of arts in these, from the same state, is 1,370. The state furnishes, therefore, only one undergraduate student to the colleges for every 3,193 inhabitants; while New England furnishes at the same time one to every 1,957. Now of the 4,500 students of the higher class in daily attendance in the academies, at least a fifth part may be assumed to be pursuing the advanced studies of the program, such as correspond to the

later years in college. And if we increase the actual number of undergraduates found as above for New York by 900, the fifth part of 4,500, the result will be to give a proportion of students to population of one to 1,927, very nearly the same as in New England.

There is, moreover, additional evidence that the attractions of the academies sensibly affect the attendance on the colleges to be found in a more particular examination of the returns of the several academies taken separately, in regard to the ages of their advanced pupils. The average age of all these pupils, in all the academies, is, as above stated, sixteen years and four tenths. But the average age of this class is very different in the different academies; and it is by no means to be presumed that all these institutions, any more than all the colleges, are of one uniform grade of excellence. Accordingly, it appears that, whereas, in a large number, the average age of the pupils reported as belonging to the advanced class is as low as fifteen or lower, yet in many it is above eighteen, in some above nineteen, and in several even above twenty, thirty-nine of the academies, in fact, having an aggregate attendance of pupils pursuing advanced studies amounting to 2,287, return the average age of these students as above eighteen years. Of this aggregate, 2,069 are between eighteen and nineteen; 126 between nineteen and twenty; and 92 above the age of twenty. The ages of these students correspond to those of college students, and the studies they are pursuing are similar in character to those which are pursued in college. It cannot be doubted that some of this large number have chosen the academy rather than the college on account of the greater freedom which they find there in the selection of their studies.

It is not to be presumed that the teaching of the academies in the higher branches of study can in general compare favorably with that of the colleges, as it respects either method or thoroughness; but it would be unjust to apply this remark universally. That there is great inequality among them, both as it re-

spects efficiency and as it respects the instrumentalities of instruction, is distinctly stated by the Regents in their report, in which they say,

if with our present experience, we were to commence our academical system anew, there is little doubt that seventy-five or one hundred academies, properly distributed through the state, would, by their strong staff of teachers, their considerable libraries and well-selected apparatus, do more effectual service in the cause of education than the present large number of institutions; as many of these, from their want of sufficient endowments and adequate support, are compelled to do much of their work imperfectly.

But many of them are schools of very superior merit and efficiency, and these are doing, at the present time, a great part of that work of disciplinary education which has been so much insisted on as being the proper work of the colleges. It is by these schools that the colleges are principally fed, as in Germany the universities are fed by the *Gymnasias*; and it is to be presumed that, in progress of time, by the strengthening and the elevation of both, these two classes of institutions, thus independent of each other but still intimately related, may create upon this continent a system of superior education practically parallel with that of Continental Europe. All our colleges, it is true, cannot become universities. If the change here anticipated should go on, some will continue to maintain but a secondary rank, some will probably be absorbed by others, and some will perhaps at length become extinct. It is true already of these institutions, as the Regents have found it to be of the academies, that their number is greatly in excess of the wants of the country, and that the efficiency of the system would be materially promoted, if it could be reduced.

The principal objection to the elective system of study has always been that which is derived, as above stated, from the theory of a liberal education considered as demanding a well-rounded development of the faculties. We have seen that the force of this objection rests upon an assumption which can no

longer be admitted — the assumption, namely, that the college student is throughout the course of that tender age in which educational influences may do a great deal more than merely to brighten and invigorate such faculties as he has — in which such influences may, in fact, actually give them shape and form, and evolve or repress them at pleasure. Other objections have been suggested of less apparent weight, which still should not be permitted to pass without examination, nor without an attempt to provide securities against the dangers which they indicate. If the choice of studies is free, young men, it is said, will exercise it capriciously, and will possibly pass from subject to subject without continuing long enough at any one to derive from it substantial advantage. By granting freedom of choice, however, it is not to be presumed that such a freedom is intended as would permit a student to change from day to day or from week to week. The study which is chosen must be chosen as a whole, and must be pursued to the end, or to the end at least of some branch of it which is complete in itself. This rule will prevent capricious changes, and will secure at least as much continuity of attention to particular subjects as the ordinary curriculum allows; for the very fault of the ordinary curriculum is that, during the later years at least, it presents so large a number of subjects that long-continued study of any one of them is impossible.

But it is further objected that the free exercise of choice permits a selection of such studies as present the fewest difficulties, and thus plays directly into the hand of the careless and inefficient student. To this it may be replied, as the result of a pretty long observation, that the incorrigibly idle are not perceptibly improved in diligence by being compelled to pursue difficult studies. In every considerable body of students, there will always be some such. And it is truly marvelous to remark how very closely such individuals manage to run to the very minimum of attainment required to save them from being dropped from the rolls as hopelessly deficient. Now the benefit

which such individuals can derive from being compelled to pursue what they call "hard studies" are insignificant in comparison with the harm they do to others, who, being yoked with them in the same classes, are hampered in their progress by their dullness or their wilful neglect of study. It is one of the great advantages of the principle of election that these drags upon progress are effectually eliminated by it; so that the strong men and the willing men can go along together and turn their strength and their zeal to substantial account. The man who, at the age of nineteen, which in Columbia College is the age of entering upon the Junior year, can be so indifferent to his own improvement, and so averse to mental effort, as to choose his studies deliberately with the view of getting rid of work, can hardly be constrained to work upon studies chosen for him. And the experience of our own College, which, though brief, is still worth something, indicates that facts are not likely to justify the apprehension on which this objection is founded.

It may be regarded as nearly certain that, in the case of every student as to whom it is of the slightest consequence one way or the other what he chooses, the choice will be determined not by caprice nor a pitiful desire to shirk labor; but by a natural taste or liking for one subject rather than another, or by an honest desire to know. The preliminary and more elementary part of the course furnishes the opportunity to compare different subjects, so far as to enable the student to judge what he is likely to pursue in its larger development with the greatest satisfaction and therefore with the largest substantial results, and upon the basis of this knowledge his choice will be made. That this is true is made almost demonstrably evident in the selections of elective studies made at the beginning of the last academic year by the members of our Senior class, when the study commonly reputed to be the most difficult (metaphysics) was chosen by two-thirds of the class, while that which passes for the easiest, and to many is the most fascinating (chemistry) was chosen by fewer than one-fourth.

That the elective system is not at present more largely adopted in American colleges is owing, in good degree, to the fact that it increases considerably the number of exercises which the officers are required to conduct, and imposes very soon the necessity of enlarging the academic staff. The question is not therefore purely an educational one; but it is complicated with economical considerations. It is not possible that the system should be introduced into all the colleges, and out of this circumstance is likely to grow sooner or later a classification into grades. Out of the higher grade, embracing the smaller number, will probably be developed the universities, if we are to have such, which are to rival those of Continental Europe. The lower will remain what they are or will disappear.

It is now about eighteen months since the elective system was introduced into Columbia College to a limited extent, and applied to a portion of the studies of the Senior year. The results of the first experiment, as stated in the brief notice given of it in the last annual report of the undersigned, were so satisfactory as to induce the committee on the statutes to authorize its further extension. After the lapse of another year, the undersigned is prepared to speak with greater confidence than before, and in terms of more decided satisfaction. As it was last year stated that the Senior class had never before been so steadily attentive to study up to the close of the year, so it may be said at the present time that the diligence of the class throughout the whole year has been to a very marked degree satisfactory. The officers have noticed a greater manifestation of interest in the subjects studied than has been observed in former years; and they agree, it is believed, in ascribing this result to the fact that the studies are voluntarily chosen.

It is not perhaps practicable for us for the present to give to the elective system a larger extension than it has already received. In order that, among the studies submitted to the choice of the student, it may be practicable to select any desired combination at will, it is necessary that the scheme of attendance shall be so

arranged that the hours allotted to all these studies may be different. In Columbia College at present the exercises occupy only three consecutive hours in the morning of each day, giving to each class fifteen hours per week. Of these fifteen hours, about half must be devoted to the required studies of the course; so that only seven or eight at furthest remain available for the optional studies. In consequence of this, it has been found thus far impracticable to construct the scheme so as to prevent different optional studies from falling upon the same hour; but the studies coinciding have been generally those between which the election would naturally fall; and thus the latitude of choice maintained has been greater than would at first appear. The plan is one, however, which can be carried no farther; and it would be better if it were not carried so far.

No remedy presents itself for this difficulty, but to extend the exercises over a larger number of the hours of the day; and this is what, ultimately, if the system is maintained, will have to be done. But in making such an extension, it will inevitably happen that there will occur occasionally hours in which a class or portion of a class will have no exercise; and for the profitable employment of these at such intervals, it is impossible at present to make provision. This would be no embarrassment but rather an advantage, if accommodations could be found in the College building for the unoccupied classes, so as to enable them, with the aid of their textbooks and other authorities, to read up the subject of the ensuing lecture. In fact, after considerable observation of the varying practices of colleges in the distribution of their time, the undersigned is clearly of opinion that it is much more profitable to the student to alternate study with his lectures or recitations, than to prepare all his exercises for an entire day at once, and afterward give his attendance in the classrooms for three consecutive hours. As the long-continued strain upon the mental faculties in continuous study is wearying in one way, so the long-continued bodily confinement in successive classes is wearying in another. By breaking up these protracted periods,

and alternating briefer seasons of active effort with intervals of comparative repose, it seems reasonable to believe that more beneficial results may be secured, as it respects both the culture of the mind and the health of the body. It is an advantage, enjoyed by colleges in which students and instructors reside together and form a compact community, that any division of the day which seems best may be adopted with equal convenience. And the usage of all such colleges indicates a preference for such a division as shall allow the student to pass from the study of each exercise to the room in which, while the matter is fresh in his mind, he shall hear his instructor's exposition of the same subject. This advantage may also be enjoyed by colleges in country villages, whether they provide lodgings for their students or not; for neither students nor instructors can, in such places, be remote from the academic center. But the same is not true in large cities, though to a certain extent it may be made so, by providing, as just suggested, convenient apartments in which students may study in common during the intervals between the academic exercises. In the construction of a building or buildings for our College, a thing which cannot now, with due regard to the usefulness or the reputation of the institution, be long delayed, it is to be hoped that a provision of this important description will not be forgotten. For the general interests of the College, and without regard to the elective system of study, it is desirable; but for the further extension and efficient conduct of that system it is quite indispensable.*

JUNE 3, 1872

In regard to the scholarship of the College, one or two points present themselves which are worthy of the deliberate consideration of the Trustees. So far as the actual scope of our course of instruction at present is concerned, there is nothing which it seems desirable that this body should do in order to secure more efficiency in teaching or better attainment in the taught, unless

* Report for 1870-71, pp. 25-50.

it should be as to some minor matters of detail presented elsewhere: but it does seem to be desirable, in order that we may keep abreast with the progress of the age in educational affairs, that the scope of our course of instruction should be itself enlarged, or at least that our working system should receive such modification that such desirable enlargement may no longer continue to be, what it is now in fact, practically impossible.

To illustrate the idea which it is here intended to convey, let the question recently submitted to the committee on the course, as to the expediency of dividing the chair of philosophy and English literature, and the arguments advanced in support of that proposition, be for a moment examined. It was urged by Trustees upon this floor, not without reason, that there is no department of learning in which it is of more serious importance that the liberally educated youth of our country should be thoroughly instructed and largely versed, whether in reference to the elegance and finish of their own personal scholarship, or the weight of their future practical influence among their fellow men, than the language which we ourselves speak, and the copious literature with which it is enriched. It was argued that, by associating this great subject, of magnitude enough to require the devotion to it of the undivided energies of the ablest man and the most accomplished scholar to be found in the country, with several other subjects of great weight, such as philosophy, ethics, general history, political economy, etc., great injustice is done not only to the subject itself but also to the man upon whom this great burden is laid, and therefore that in the mere statement of the fact that such a condition of things exists in our College now we present a point of weakness which it requires no argument to make apparent, and which ought not to be permitted to remain one unnecessary hour without correction. The remedy proposed for the admitted evil is that these subjects be at once dissociated and committed to the hands of different men. And if the evil is to be corrected, this of course is an important step, and it might at first thought seem to be necessarily the first

step of the process. But such is by no means the case. For the professor is of no use unless he has opportunity to work; and no adequate opportunity for work can be given him, unless the students have time to attend him.

Now the difficulty — in our actual circumstances the impossibility — of any modification of our course of instruction involving an extension of the scope of our teaching is made manifest when the fact is stated that the duration of the collegiate course is fixed at the definite limit of four years, and that during this period the student cannot advantageously give more than three hours on each working day to attendance for instruction in class. This limitation of hours has been settled by immemorial experience, and by the concurrent usage of collegiate institutions wherever they exist. Whatever therefore be the number of instructors, they have between them but a definite amount of time to divide. The number of subjects which, according to our programs, are professedly taught is bewilderingly large. It is certainly desirable that each subject should be taught by a master of it; but if the teaching, by the limitation of time, is to be confined to a few general outlines or a mere skimming of the surface, it might as well be given by one who knows little more of it than those he instructs.

All the instruction given during the earlier years of the college course should be given mainly with reference to its disciplinary effects. It is not permitted materially to diminish the time given during those years to the class of studies which experience has proved to be most efficacious for this purpose. Practically, when we speak of enlarging the scope of our teaching, we must be understood to confine our speculations to the possibilities presented in the two later years. This, at least, must be the case, unless we aim, as Harvard University seems to be aiming, to throw back upon the preparatory or training schools all the studies heretofore taught during the Freshman and Sophomore years. Now, in the present distribution of time, the department of philosophy and English literature is allowed to com-

mand the attendance of the students during about one-fifth of their disposable time. In round numbers, it holds them for about one hundred hours per annum during the Junior and Senior years; and in this time it is required by statute to give them instruction in the history of modern literature, logic, criticism, modern (general) history, political economy, and moral and mental philosophy. During the same time, also, must be maintained, under the same instructor, constant practice in composition and drill in elocution. Disregarding these last-mentioned matters, as not encroaching largely on the regular hours, though they impose a heavy task upon the instructor, we have seven subjects of importance, every one, indeed, of great importance, to be disposed of in about two hundred hours. Upon an average the number of hours available for each is about twenty-nine. If all these twenty-nine hours could be taken consecutively, other subjects of study being for the time discontinued, they would hardly occupy two weeks of the collegiate year.

Much no doubt may be conveyed in twenty-nine hours, by a man who is master of his subject, to an audience of mature minds, who attend him with an evident desire to learn; but the instructor, if he wants to convey much, must not waste any part of this precious time in endeavoring to verify how far he is comprehended by each individual, nor attempt in the slightest degree to accommodate the current of his teaching to the possibilities of progress of dull or even of average capacities. Moreover, in collegiate education, textbook instruction cannot be with advantage wholly superseded by oral; and, as a rule, textbook instruction, though subjectively more profitable to the learner, is less rapid for the teacher than instruction by lecture.

Suppose now the chair of philosophy and English divided, and a new professor introduced, say for instance a professor of metaphysics, or a professor of history, or a professor of modern literature, in what manner can we secure for him a field for the exercise of his abilities? To give him thirty hours in two years, which is all that the present allotment would allow him. would

be palpably absurd. To give him a larger amount of time would be to encroach upon other departments of instruction, thus reducing their effectiveness below what it is now; though all of them are already suffering from the very same evil; that is to say from the same inadequacy of the time allotted to them to their pressing wants, from which we propose to relieve this one.

There is, therefore, no possibility of making adequately available the services of a new professor in the department of philosophy, or of English literature, or of political economy, or in any other, so long as our working system continues to be such as to offer to the instructors of a given class only fifteen hours per week to be divided among them. Now if there is any force in the arguments which have heretofore been used before this board in favor of giving a fuller development to our course of instruction in English literature, these arguments are equally cogent in favor of a provision, during the later years of the college life of the student, of a larger number of parallel courses open to him for selection. And in order that such choice may be possible, it is absolutely indispensable that the hours of instruction in the college should not be immediately consecutive, nor limited to the three between ten and two o'clock.

This subject was brought to the attention of the Trustees in the last annual report of the undersigned. Its importance justifies its presentation once more. For since a committee, appointed to inquire as to the practicability of finding in the present College buildings the extent of accommodations which a better allotment of time would render necessary, has reported unfavorably, and the question seems thus to be settled that there can be no such improvement until the Trustees shall proceed to erect a new edifice more convenient and more worthy of the institution, the undersigned would feel that he had failed in the discharge of his duty if he did not here record his earnest conviction, a conviction shared, he trusts, by many members of this Board, that no consideration whatever should be permitted to

prevent the erection of such an edifice with the least possible delay. And any policy which may be adopted in regard to the site of the College which involves as a necessary part of it the permanence of the present state of things for a long period of years cannot but appear to him a sacrifice of the highest interests of the College to considerations purely economical. It is useless to deny that the College suffers morally, to a degree which it would be difficult to calculate, from the unimposing aspect of its present buildings. Its prestige is sensibly diminished with every day that its occupation of them is unnecessarily protracted. But this consideration is quite secondary in importance to the graver one of the inadequacy of these same edifices in their interior accommodations to the exigencies of any plan of daily operations but that which confines us to three consecutive hours in the day, and forbids such improvements in our educational system as we, with one consent, ourselves acknowledge to be necessary — improvements, moreover, without which we cannot hope to maintain our position of honorable equality with those competing institutions which hold the highest rank in the educational world. It appears to the undersigned that considerations of this kind should dominate all others; and that, in planning for the future, our governing thought should be, not what policy will cost us least in dollars and cents, but what policy will gain us most in power of usefulness, and in character.

In our College we have already introduced, to the very moderate extent which this limitation of the hours of attendance of the students admits of, the system of parallel and optional courses of study. The results have been in the highest degree satisfactory to the professors in all the departments affected by the innovation. A very notable result has been the dissipation of the apprehension, so often expressed in discussions which go on upon this subject, that, where freedom of option between studies is allowed, those which are commonly called “easy” will command the larger number of adhesions. It has not been so in our experience. The distribution has been approximately equal

among all the studies presented for option, and, what is perhaps more important, though certainly quite natural, it has been very much such as the Faculty themselves would have made, had they, instead of the students, exercised the option. And such it may be presumed will always be the case, when parallel courses are offered to the choice of students during the later years of their academic course, while there is still room to believe that, if the offer were made at the beginning, the result might be different. But the effect of the early years of training is to bring out the character of each individual mind, and to determine what are its native idiosyncrasies and what it is possible to make of it. The doctrine that all the faculties of all minds should be developed as far as possible by appropriate educational exercise and discipline is a true doctrine, which should be recognized as the foundation of our system; but the doctrine that all faculties of all minds are equally capable of development is a fallacy which no enlightened educator will maintain. That every faculty should receive its fair amount of fostering attention is certainly just and right; but to expect that this fair amount, or that any amount, of educational culture, however laborious, will secure to every individual an equal power or chance of success in any given direction, as, for instance, in poetry or in mathematical research, is as unreasonable as to expect that every sapling in a nursery may by proper care be made equally prolific of fruit. So much used to be said, some years since, by certain writers on the principles of education, about the necessity and possibility of an equal development of the mental capacities in all directions, that their system came to be called, half-humorously, the system of rounded culture; and their model or typical minds, rounded minds. But in nature there exist no examples of such perfection, nor is it in the power of educational art to produce them from the material which nature has provided. We might as well expect that different minerals could be made, by proper attention on the part of the chemist, to crystallize into visible spheres, as that different minds under the care of the educationist, should take

on that ideal roundness which the perfectionist theory above mentioned presumes.

The true theory of education, in the view of the undersigned, is this. In the earlier period, when the native capacities, the original distinctive endowments, are unknown, let the system of training aim, with equal faithfulness, to draw out every faculty which belongs to the human intelligence. Let this impartial system be pursued even after and long after it shall have become palpably manifest that all do not equally respond to the culture bestowed upon them. For that this will speedily become manifest, experience always proves, and reason might lead us to anticipate. There is no more reason to suppose that all men will be born with equal or similar powers of mind, than with corresponding characteristics of body: and, while the brain continues to be the organ of mind and the brains of infants sensibly differ, we must expect that there will be born with them intellectual differences which no system of educational training can eradicate. Therefore it is not the business of education to undertake to eradicate these differences; and when the system of elementary discipline has brought them fairly out, and demonstrated beyond any question what manner of man it is with which we have to deal, it is no less unwise to expend our principal subsequent labor upon his most unpromising faculties, in order to realize the idea of a rounded culture, than it would be in an army to subject to the most thorough and persistent drill the feeblest or most cowardly soldiers, while neglecting the strong and the brave.

The first business of education, therefore, is to find out what the individual is fit for; the next is to make the most of him in that for which he is fit. And according to this true theory of a subject which plausible speculation has done very much to obscure, a special system of training adapted to the idiosyncrasies of the individual is just as distinctly indicated for the later years of a liberal educational culture, as a general one equally enforced upon all is for the earlier. And it further follows that if, at this

later period, the student is permitted to follow the bent which his preceding training has served to develop, his choice will fall upon those studies which are in harmony with this bent, without any reference to the question whether they are, in the common sense of the word, "easy" or "difficult." For these terms, "easy" and "difficult," as applied to matters which concern the understanding, admit of two quite different modes of definition. No mental pursuit is easy if it be distasteful, no matter how little real labor it may demand for its prosecution; and no similar pursuit is difficult if pleasing, even though to follow it may exact the severest and the most persistently sustained exercise of the faculties. Thus we have no lack of volunteers for a subject reputed commonly so difficult and so dry as the calculus, or so obscure as the metaphysics; nor is there, on the other hand, any observable predominance in the number who select a branch so fascinating as physics, or so practical as technology or chemistry.

Of our experiment in the introduction of parallel or optional courses of study during the Senior year, it may be said that its practical success is an illustration of the truth of the theoretic principles above laid down; and both experiment and theory thus justify the belief that it might wisely and ought actually to be carried further. One embarrassment still limits the advantage which ought to be derivable from it, even in the limited extent within which it has thus far been confined; and this is one growing out of the restriction, above noticed and lamented, of the scholastic exercises of the college to three consecutive hours of the day. In consequence of this, certain elective exercises occur constantly at the same hours with certain other; and should any student desire to elect both these, he is not at liberty to do so. Thus if one elects Latin, he cannot elect physics; if he elects Greek, he cannot elect the calculus; if he elects metaphysics, he cannot elect technology. Were the exercises distributed over one hour per day more, it would be possible for each individual to form any combination of elective studies which he might desire;

but this change would involve the necessity of providing rooms for the profitable occupation of the students when not under instruction, and there would constantly be sections thus situated, since it is not desirable that attendance in class should be required more than three times in the day of any.

It is not, however, only for the benefit of that portion of the students who may at any time be pursuing optional studies that the distribution of the class hours over a larger portion of the day is desirable. If, in the comparison of our city colleges with those in which the students permanently reside, there is any point in which we are at an obvious disadvantage, it is in respect to the relative distribution of the hours of private study and of class instruction. In all the community-system colleges, study and class exercises regularly alternate. With us, the class exercises are disposed of in three consecutive hours of the morning; and the student is presumed to devote the remainder of the day and the evening in preparation for them. Some perhaps may faithfully and profitably so dispose of their time; but considering the age and the volatility of undergraduate youth, the security that they will generally do so is seen to be slight. There will be an incessant and strong temptation to crowd all study into the smallest portion of time and into the evening. This point, however, having been sufficiently insisted on in the last annual report of the undersigned, need not in this place be further mentioned, except to suggest that the same modifications of scheme which would increase the practical usefulness of the system of parallel courses of instruction would be beneficial at the same time, and perhaps equally so, to those of the students to whom such courses are not yet open.

The embarrassment to our existing system, above mentioned as growing out of the limitation of our scheme of hours, is felt not only as already described by restricting the freedom of option, but also by imposing a restraint to the extent to which any optional course can be carried. Practically as yet, our optional courses have occupied generally two hours per week, each —

in some cases three hours. Now the benefit to be derived from any course of study, whether as it respects the knowledge acquired or the subjective effect of the mental exercise, must be proportioned to its persistency. When many subjects are brought before the mind in frequent alternation, while no one is very exhaustively pursued, there is danger that the consequence may be a species of mental dissipation rather than of healthful effort. Every member of the Senior class in our College, under any system of combination which it is practicable for him to make, is obliged to pursue six different subjects of study every week. This number might be advantageously reduced to three or four, if it were possible, by omitting some, to attend more continuously to others. This, which is not at present practicable, would easily become so under a more extended scheme of hours. And the manner in which it may be done is shown in the recently published program of the elective courses of Harvard University — an authority referred to not as a model for imitation, but as an illustration of what can be accomplished not only in the way of providing variety but also of maintaining uniformity, if that be preferred, in the subjects of study which an individual may be free to pursue, when the element of time is entirely at command. The Junior class, for instance, in Harvard, according to this program, has six hours per week of required studies, and nine hours of electives, which may be distributed over four or five subjects or restricted to one or two. Of independent courses of study there are offered more than seventy. Many of these however are alternative courses in the same department. There are nine courses, for instance, of reading in Greek; seven in Latin; five in philosophy; six in history; eleven in mathematics, and so on. And of this large number, it is stated that an undergraduate cannot, at best, pursue more than fourteen, before taking the bachelor's degree. It follows, therefore, that the amount of teaching at Harvard is at present five times as great as it was before the elective system was introduced there; and, it may be

added, five times as great as it was possible that it should be before that change.

To apply this to our own case, returning for the purpose to the proposition spoken of in the beginning of this discussion, that a new professorship should be created here to take charge of the subject of the English language and its literature, we see that the condition of the usefulness of such a professor must be that he should be able to plan and pursue his course of teaching without any reference to the meager allotment of time which his subject at present commands, or which it is possible that it ever can command so long as our College is forced to wear the strait jacket within which our present scheme of hours confines it. He should be able, without being trammelled by any Procrustean measure, to give it that necessary and natural development which the copiousness of his subject indicates, and which its importance demands. Then those of our advanced undergraduates whose earlier training has developed in them literary tastes or the aesthetic feeling will seek his instructions with pleasure and with profit; while those who, under like influences, have betrayed a native bias toward the severer studies will find in the mathematics, in astronomy, in the doctrines of force and motion, and in the higher physics their more congenial mental aliment.

That it should be in our power, and at as early a day as possible, to offer to those who resort to us for education these large advantages — advantages which sister institutions are sure to compete with each other in offering every year more and more abundantly — seems to the undersigned to be the object which, until it is accomplished, should take precedence of every other in our thoughts and in our efforts; and it is his most deliberate conviction that any policy adopted now of which the effect should be to postpone indefinitely this great benefit would be but very imperfectly justified by any pecuniary advantage which it might be hoped thus to secure.

A single additional remark in regard to the system of parallel

or elective courses of instruction will complete what the undersigned has to say upon that subject at present. This system seems to be regarded by some educators with doubt or distrust, on the ground that it is a departure from what is called our "time-honored" system of collegiate training. But this objection implicitly assumes that we have such a system. The question arises, how far this important premise is true. That we have a system of collegiate training is undeniable: to what extent is this a time-honored system? It would be a singular result if we should arrive at the conclusion that the system which really came to us from past centuries, and which, if any, is really the time-honored system, is only now to be found in institutions which admit the principle of election. From all the colleges which maintain a fixed curriculum it has so completely disappeared as to have drawn from the ripe scholar and profound thinker and veteran educationist, Professor Tayler Lewis, that eloquent protest and almost wailing lament, pronounced by him at the last meeting of the Convocation of the University of the State of New York, which the members of this Board no doubt remember, in which he declared, with earnest and almost plaintive emphasis, that unless our colleges should return to the teaching of the classics with the thoroughness and fullness of the former time it were better that they should cease to teach them altogether. And well he might so exclaim, for what melancholy changes has he not seen in his own day? To how complete a revolution has not the undersigned himself been a witness?

Our earlier American colleges were founded on the model of those of the British universities; and here, as there, their avowed design, at the time of their foundation, was not merely the general design to raise up a class of learned men; but specifically to raise up a class of learned men for the Christian ministry. Here, as there, accordingly, the teachings consisted largely in the classics, with logic, geometry, and physics (such modest and not wholly accurate physics as existed in that day); to which were added, according to Dr. Palfrey and Professor Kingsley, in their

historical sketches, Hebrew, Chaldaic, Syriac, and dogmatic theology. This was the system which time had honored at Oxford and Cambridge, and which time continued to honor on this continent, with very slight modifications, down nearly to the close of the last century. Nor though, during the first thirty years of our own century, changes began to be admitted, did these materially affect the teaching in the classics, which, with the pure mathematics and logic, constituted always the staple of the collegiate teaching of the earlier centuries. Dogmatic theology was relegated to an independent though associated school. With it went along the Oriental tongues, with the exception of a mere trace in the form of Hebrew, which continued, and it is believed still continues, at Yale, to constitute one of the extremely limited number of subjects between which, in that institution, option is allowed to the student. Chemical, geological, and physical science, which, in their varied branches, are almost exclusively the creation of the nineteenth century, then began to be admitted. Natural history was recognized as not undeserving of a place in a course of liberal education. The allied sciences of anatomy, physiology, and hygiene successfully urged their claims to attention. And thus, upon a simple trivium and quadrivium, with Oriental letters and theology superadded, which was the collegiate training which time had honored, there was superinduced a vast multiplicity of matters before unthought of by educators, many of them never heard of, many which could not have been heard of because they had had no existence, crowding upon and threatening to smother the older subjects, and constituting the new education of the morning of our century. The first of the old subjects to go to the wall were, as we have seen, theology, Hebrew, Chaldaic, and Syriac. The classics and the pure mathematics long and stoutly held their own. The innovating subjects were allowed admission, but not by any means admission to equality of rights. The state of things which existed, for example, in Yale College, between 1820 and 1830, of which the undersigned can speak from personal knowledge, was

peculiar. The academic year, exclusive of vacations, was forty weeks in duration. Thirty-eight weeks were devoted to instruction and two to examination. In every week there were sixteen regular class hours, and a seventeenth hour given to public declamation in presence of all the college. Thus there were 608 regular class hours in the year; and into none of these, for the first three years of the course, did any of the intruding subjects secure admission. Yet, in addition to their undiminished 608 hours of scholastic training in the classics, pure and mixed mathematics, logic and rhetoric, the Junior class were required to attend 100 hours in chemistry, and 50 hours in experimental mechanics and physics, and in meteorology and descriptive astronomy. The consequence of this was that the amount of classical reading in those days was vastly greater than it is at present. In them were accomplished all of the two large volumes of Dalzell's *Graeca majora* embracing Xenophon's *Cyropaedia*, *Anabasis* and *Memorabilia*, with large extracts from Herodotus, Thucydides, Lysias and Isocrates, Plato, Aristotle and Longinus, and the poets Sophocles and Euripides. And to this are to be added several books of Homer's *Iliad* and the oration of Demosthenes on the crown. In Latin, the reading embraced eight books of Livy's *History*; the entire volume of the poetical works of Horace, including *Odes*, *Satires*, *Epistles* and the *Art of Poetry*; Cicero *De officiis*, *De senectute*, *De amicitia*, *De oratore*, and *De republica*; and finally Tacitus — the *History*, *Agricola*, and *De moribus Germanorum*. And besides this, the whole of Adams's *Roman Antiquities* was read, from cover to cover.

At the present time, the classical reading in the same college appears to be, in Greek, four books of the *Odyssey*, half the first book of Herodotus, four orations of Demosthenes, one book of Xenophon's *Memorabilia*, the *Prometheus* of Aeschylus and the *Antigone* of Sophocles; in Latin, one hundred pages of Livy, three books of the *Odes*, and the *Satires* and the *Epistles* of Horace, Cicero *De senectute*, one term of the *Satires* of Juvenal, and one term of the *History* of Tacitus. In the Junior year, Latin is

read through one term, and Greek through two (there being three in the year), and in the Senior year, Latin is read for one term, and Greek not at all.

The change here indicated is very great — great enough to justify the exclamation of the venerable Professor Lewis that the classics had better be given up in our colleges or else read more.

We have no right therefore to call our collegiate system our "time-honored" system. The system which was time-honored is gone, and in its place we have one which, though we may imagine it to be the same, since the changes which have come over it have stolen in so insensibly as not to attract observation, is nevertheless to a large degree divested of that disciplinary power which is supposed to belong to the protracted study of logically constructed languages, and is subject to the reproach of distracting the mind of the learner with too many objects of attention and too little persistence in the pursuit of any.

The corrective of this evil is not to expel from the recognized positions they have secured in our course of instruction the new subjects of knowledge which the progress of modern science has created, and which it has made so powerful instrumentalities in ameliorating the condition of man — an expedient as unadvisable as it is impracticable; it is to establish rather parallel and elective courses of instruction, which will hold out to the ardent seeker after knowledge the opportunity to pursue selected subjects with something like a satisfactory degree of thoroughness, while it is manifestly impracticable that he should pursue them all.

This is the means, and it is manifestly the only means, by which it is possible to correct the great evil of our actual collegiate system, a system not time-honored if by time we are to understand even so much time as half a century; but a system which has so far departed from that earlier system which did bear the stamp of antiquity as to have lost to a certain degree the efficiency which that possessed as an instrument of intellectual dis-

cipline and to have gained only the inadequately compensating advantage of a wider range of knowledge characterized by at best but a suspicious profundity. The one object for which the undersigned desires to prolong his career as an educator is to see this means of correction in full and effectual operation in Columbia College. That the future has in reserve such a consummation for this institution, it is impossible to doubt. That its early attainment should be prevented not by any deficiency of educational force here, but solely by the absence of those material facilities which are indispensable to make that force available, cannot but be a subject of painful regret.*

JUNE 2, 1873

As it respects the course of instruction, some subjects which once occupied no little space in the curriculum have been entirely dropped. President Webber's course of mathematics, prepared for Harvard University, and used not only there but in many sister institutions, began with an extended treatise on arithmetic, in which the principles of that science were simply enunciated in the text, while elaborate demonstrations, sometimes involving by anticipation algebraic symbols and formulae, all of which the students were required to master, were given in footnotes. English grammar was also taught, the voluminous work of Lindley Murray on this subject being used as a textbook, and the whole of it required, including prosody and the large appendix treating of the rhetorical principles of correct composition. No less importance was attached to modern geography, and here Morse's octavo volume of six or seven hundred pages was professedly read to the last syllable. It is true that the lessons assigned were enormously long, the contents of twenty or thirty pages being required at a single recitation; but the books were completed, and examinations were held upon them, not only at the end of the year or session to which they belonged, but twice subsequently: once in the spring of the

* Report for 1871-72, pp. 18-24.

Junior year, when all the subjects of the course from the beginning up to that time were examined upon, and again at the final examination of the Senior class, in which every subject in the entire course was again passed in review. This at least was the case in the college in which the undersigned received his education; and it is believed to have been the common usage. The subjects above mentioned, with their voluminous textbooks, and probably others, once required, have long since been dropped from the college curriculum. In the classical departments, there has been also, as pointed out in the last annual report of the undersigned, a very material reduction in the amount read. On the other hand, in the departments of physical, chemical, and physiological science, and, in some colleges, in natural history, and in not a few others in the living languages and literature of foreign countries, there have been very large additions to the course, with the effect greatly to diversify the subject matters of study, and sensibly to impair the efficiency of the whole system — considered, as it has been common to consider it heretofore, as a system designed exclusively or at least mainly to discipline the mental powers.

Methods of instruction have also, in the meantime, materially changed. Half a century ago, the instructor limited himself much more generally than at present to the business of ascertaining how much the student knew, and gave much less of his labor to the removal of difficulties by direct exposition. The exercise of the recitation room was more literally a recitation, and partook less of the character of a discontinuous lecture. This, which was true in all departments, was more especially so in the teaching of the classics. Here the aim was rather to read much than to read with severe accuracy. The student became acquainted with a larger number of works, but what he knew about them was materially less. His knowledge of classical literature extended over a larger surface, but it penetrated to a depth much less profound. He gathered more of the general drift of his author's thought, but learned less of the language in which it was

conveyed. The change which has taken place must on general principles be pronounced to be an important improvement. As a rule, it is better to know a little and to know it well, than to know much, and know it only imperfectly. But there is something to be said on both sides. That able and experienced educator, Dr. Tayler Lewis, has expressed very decidedly the opinion that the critical study of linguistic structure, to the neglect of extensive reading, in the Latin and the Greek, has been carried so far as to diminish the average amount of attainment in classical learning to an injurious degree. This view cannot, however, be maintained, if we regard the object of this study to be mental discipline and no other. For the mind is trained to the advantageous use of its powers in no manner more effectually than by the careful discrimination of nice distinctions. The more critical study of the ancient languages, therefore, which has found acceptance in recent years, brings the methods of instruction more nearly into harmony with that theory of collegiate education which universally prevailed at a time when looser methods were equally prevalent.

It cannot, however, be denied that the beneficial effect of this species of critical study as a means of mental discipline is largely counteracted by the great multiplication of helps to learning — in the form of annotated editions, lexicons which are almost commentaries, and grammars which leave very little for ingenuity independently to discover — which has taken place in our time. By the aid of these, the student is enabled, with proper attention, to learn much with little labor; whereas, forty years ago, in their absence, he learned comparatively little with much labor. And yet this comparatively little was worth more to him educationally than the much which the student of the present day may acquire in the same time, because it was gathered by the active exercise of all his faculties, and not passively received, and afterwards retained by an effort of the memory alone. And what is true of expository methods in books is true also of the excessive use of expository methods by the teacher person-

ally; for though these tend to inform the mind, their tendency is rather to repress than to excite its activity. It may seem paradoxical to assert that the young man of good parts and studious habits who pursued his studies at the earlier period mentioned, with bad helps and imperfect methods of instruction, reached the close of his collegiate course better educated than a youth of like character does today, with all the superior advantages which he is permitted to enjoy; yet if we are to understand by education that culture exclusively which consists in invigorating the mental powers by healthful exercise, training them to systematic action and bringing them under the command of the will, and not merely or chiefly in the increase of knowledge, it can hardly be doubted that it is generally true.

What is true in regard to the changes here spoken of is true not only of colleges, but also, at least so far as the helps to learning are concerned, of schools of lower grade. The studies called disciplinary do not discipline as they once did, since a certain degree of proficiency in them may be acquired with much less effort. It is a great error to suppose that whatever tends to facilitate the acquisition of knowledge contributes necessarily to the improvement of methods of education. The truths which the student discovers are worth to him infinitely more than those which are discovered for him. The fabrics of knowledge which he builds up for himself out of their elements have a value which can never belong to such as are presented to him ready made. Plainly, therefore, the characteristic of a really useful juvenile textbook should not be that it relieves the child of the task of thinking, but that it excites him to think; and the distinguishing feature of a judicious method of teaching is not that it directly imparts knowledge, but that it awakens the desire of knowledge and puts the learner in the way to gather it for himself.

There comes, however, a time, at length, when the main object of the acquisition of knowledge shall cease to be the healthful exercise of acquiring it. In the life of every man, there

is need for a great deal larger acquaintance with men and things, with facts of past history and of present science, than can be picked up incidentally in a course of mental training; just as there is need, in the actual work of life, of an ability to use the members of the body in a great many much more practical ways than are likely to be acquired in the exercises of the gymnasium. At some period, the object of study must be simply to learn. We cannot devote the whole of life to the business of getting ready to live. And this period is tolerably well marked by nature herself, in the provision that the mind, like the body, whether cared for or not, grows, flourishes, and decays, following a cycle of development and decline of which, for the race, the phases are embraced between limits pretty well ascertained. The examples of precocious or of retarded development which occasionally occur serve, by the attention which they attract, to demonstrate the general uniformity of the rule. If this be so, it follows that the natural period to which disciplinary education properly belongs, and with the close of which it should cease to be the principal object of scholastic teaching, is that in which the mental powers are spontaneously unfolding themselves, and during which the mind is plastic and capable of taking its form from the pressure of outward influences. This period practically terminates before the close of the eighteenth year of life. The young man who has reached that age under whatever influences, or under no influences at all but those which nature supplies, will have attained an intellectual character which no subsequent formative discipline is likely to any sensible degree to alter. His intellectual *habits* may still be capable of improvement, as may his habits of body, and this continues to be true of both to an advanced period of life.

But he can no longer be molded over again. If a youth who has been under educational culture in schools of one grade or another from infancy upward manifests at the age of eighteen a decided aversion for mathematical study, he may spend the rest of his life under scholastic "discipline," without ever being

a mathematician. Or if, during the same long course of elementary training, he has never been able to feel a lively interest in language, but has found his chief delight in the objects or the phenomena of outward nature, it would be a hopeless undertaking by any combination of subsequent influences, however long continued, to turn him into a linguist. The mind has taken its set. The characteristics it has developed are permanent. In certain directions, it is capable of acting with effect. In certain others, the way is as effectually closed against it, for all useful purposes, as if a visible wall were built across the path, with the notice "No Thoroughfare" written over.

This limit of the period to which "disciplinary" education properly belongs is an entirely natural one, and one which is wholly independent of the artificial forms which we may give to our schools. And when, for the large majority of the students in any school, it becomes true that this limit is actually passed, it will inevitably happen further that the teaching, whatever we may call it, and whatever we may have originally intended it to be, will in fact cease to be disciplinary, and will make the communication of knowledge for its own sake its actual if not its professed aim. When students entered our Colleges sometimes as early as ten, and generally earlier than fifteen years of age, their whole collegiate life fell within the period to which disciplinary teaching is suitable, and in which it is proper. The course of instruction at that time was adapted to this object. And mental discipline was without dispute claimed to be the exclusive aim for which colleges were erected. At the present time, as is apparent from the statistics which have been gathered and published by the educational bureau at Washington, and from the facts embraced in the annual reports and other documents proceeding from Harvard University and from Columbia College in recent years, the average age of students in American colleges, at the beginning of the Junior year, is about nineteen. And, at the present time also, a great deal of the teaching in American colleges has actually for its explicit and avowed object

the increase of the learner's knowledge of things which it is useful for him to know; and that too on the well-understood ground that they are useful and that he ought to know them. Notwithstanding which, we find it still insisted on by many educational writers that the proper business and the only proper business of colleges is to discipline and not to inform the mind; and nothing is more common than to encounter the assertion, not merely that our colleges ought to be, but they actually are, disciplinary schools pure and simple. Their clientele has outgrown the disciplinary period, their curricula have become largely divested of the disciplinary character, their methods, introducing every year the lecture feature more and more extensively, have lost in equal proportion the rigor of disciplinary drill; and yet they are written of and spoken of as if they were still the chrysalis institutions of the last century.

The introduction into the college curriculum of many studies, on the ground that the knowledge which they embrace is valuable, is attended with the disadvantage of so far limiting the time which can be given to each as to defeat to a certain extent the object intended. This fact has led, in many instances, to the recognition of the advantage of maintaining parallel courses of study, offering to different minds a choice of such subjects as are most likely to be profitable to each. This expedient, which is the only one by which it is possible to avoid inevitable superficiality in many things, has the additional recommendation that it does render the whole course effectively disciplinary, even after the period in which discipline and not increase of knowledge is the exclusive object. For, in each individual case, it gives systematic employment to those faculties through which, if at all, the possessor is to be successful as a thinking being; and it relieves him of the necessity of expending labor in a direction which can bring him no adequate return. The necessity of this change in the teaching of colleges has been as fully recognized in England as in our own country; and the change itself has been carried

farther in Oxford than in any American institution, without excepting even Harvard University.

The college of the future is, therefore, destined to fulfil a higher function in the work of education than it has done heretofore; is no longer to be restricted to the business of developing the germs of intellect in immature minds, by an indiscriminating system of study and drill enforced equally upon all, a task which must now, to a great extent, be borne by the inferior schools, which occupy that portion of the young learner's time which is most favorable to this process; but it will perform a service no less important, for which hitherto no proper provision has been made—that of giving the differential culture which is required to bring out the full strength of minds approaching maturity, and manifesting as they do so the salient characteristics which distinguish each individuality. Between the college and the professional school we have no institution, which, like the university of Continental Europe, may give this kind of culture. It is not certain that it is furnished by that in the most satisfactory manner. And yet it is somewhat remarkable that, while volumes have been written by American educators to demonstrate the inappreciable value of that species of general culture which is supposed to be secured by a severe course of study in which the subject matter goes for nothing and the equal and persistent activity of all the faculties is the object exclusively aimed at, no one has had a word to say in favor of that special culture which is necessary to make the most of the individual himself, and which, to this end, ought to precede the ultimate narrowing down of his mental activity to a single line of study, as in the pursuit of a profession. The advantages of such an intermediate special culture are too obvious to be questioned. In the discussions which have been recently going on in England as to the desirability of a reform of the fellowship system of the great universities, and a modification of the conditions upon which fellowships may be held, and abridgment of the terms for which they shall be granted, the educational value of the fellowships

themselves has been defended on the ground that "before throwing himself for good and all into whatever is to be the principal business of his life, the student still wants an interval to complete the furniture of his mind, by study of a freer, larger, and more independent sort." But fellowships cannot be provided for all, and in this country we have as yet but few. The devotion of the later years of college life to that kind of teaching which makes the increase of knowledge the principal object, and selects also its subjects with special adaptation to the mental characteristics of the learner, furnishes for us the best means, and the only means which is likely ever to be universally available, for supplying that defect in our educational system which must always exist if the transition is to be abruptly made from the strictly disciplinary school to the study of a profession.*

JUNE 7, 1880

For some months past, there have been pending before the Trustees certain propositions, the adoption of which, should it take place, will constitute a new departure in the educational system of this institution. That the closing year has not brought with it a decision on these important points is a source of deep disappointment to the undersigned; that the decision will probably be reached before anything written here can be laid before the Trustees is a discouragement to anything more at present than a passing allusion to the subject. The occasion is nevertheless so opportune for the presentation of certain general views in regard to the existing state of collegiate education in this country, and the true way of reducing to method a system which is gradually but pretty surely approaching the chaotic, that it cannot be allowed to pass by wholly unimproved. These views, whatever may be the fate of the pending measures, the undersigned desires to place here on record, in the full confidence that the event will prove them to be just.

There seems to be a singular confusion in the public mind

* Report for 1872-73, pp. 23-31.

as to what a college ought to do. The notion was distinct enough a century ago. It was then understood that the business of a college is not so much to teach as to train. It was held that the benefit to the student is not so much the knowledge he acquires, as the mental discipline he receives. In this view a well-stored mind is *per se* of little consequence; a well-developed mind is the main thing, though it be stored with rubbish. And in fact, when we consider the monstrous tasks of original Latin and Greek verse — nonsense and otherwise — with which the college lads of the earlier times had to wrestle, it would seem as if, in the eyes of the teachers of those days, rubbish had the preference.

Mental discipline, however, and not the acquisition of knowledge, having been the recognized and exclusive end of the early collegiate education, it followed as a necessary and inevitable consequence that the curriculum of study chosen for the purpose should be, as it was, extremely limited in range. It was made up almost wholly of Latin, Greek, and the pure mathematics. A little rhetoric, a little logic, a little astronomy, and later a little psychology completed the circle. The last-named subjects were only the efflorescence of the course, making their timid appearance in the final year. The earlier three years and all the preparatory course were absolutely solid with Latin, Greek, and the pure mathematics.

In a certain sense, considering the object in view, this was wise; for as, in physical training, neither strength of limb, nor skill of hand, nor command of muscular movement can be acquired except on the condition of often repeated and long-continued practice of the same identical forms of exercise; so, in education, no increase of mental vigor, no sharpening of the faculties, no facility of wielding to purpose the intellectual energies will be secured, unless the subjects employed to provoke the mind to exertion are so few as to make it certain that such exertion shall be steady and continuous. Therefore it is that the early educators were wise when they limited the curriculum of

study to the narrow range represented by Latin, Greek, and the pure mathematics.

It may be said of them, indeed, that their wisdom in this matter was not a conscious wisdom, that the world at that earlier day had little else worth knowing except Latin, Greek, and the pure mathematics and that they merely took what they found. If this is the case, they probably "builded better than they knew."

But a greater wisdom has been claimed for them than that they limited the curriculum; it is that the subjects they placed in it are the very best, educationally considered, that could have been selected for their purpose; that Latin, Greek, and the pure mathematics are so infinitely superior to all other instrumentalities for exciting the intellectual activities, as to make them the sole necessary, perhaps the sole fit, means for imparting to the growing mind a complete, symmetrical, and rounded development. If this is so again (and the question whether it is so or not can hardly be discussed with profit here), it is possible once more, considering the suggestion made above, that they were not so greatly wise as greatly fortunate. Whether wise or fortunate, or wise and fortunate, or not, however, they created a system very fit for the purpose in view, and a system to which we ought to go back — in form and principle, at least, if not in substance — if it is indeed true that we contemplate, or ought to contemplate, in our colleges of the present day, the identical object which they set before them in theirs.

In saying that we should adopt their system in form and principle, it is simply meant that we should return to a curriculum of two or three subjects; but whether these two or three should be Latin, Greek, and the pure mathematics, or French, German, and physics, or any other triad which may be selected from the copious repertoire of an American university of the present day, it is not intended to suggest.

But the question returns: Is the object which we aim at today in our colleges the identical one contemplated in the colleges of

the last century? Do we still design them to be merely mental gymnasia, and not schools for the acquisition of useful knowledge at all? If we do so, we have practically ruined them for the avowed purpose by overloading them with so large and so distracting a variety of subjects as practically to eliminate the gymnastic feature altogether. The well-known fact is that these subjects have been added not on the ground that they improve the disciplinary efficacy of the course, which manifestly they do not, but for the reason, distinctly avowed, that they are subjects which educated men ought to know something about. If their advocates talk, as they sometimes do, of their disciplinary value, it is not because they attach importance to this view, but to soften opposition to their introduction. All of them, or most of them at least, would have a disciplinary value, if opportunity were afforded to make it felt. But, in the conflict of contending claims, it is hardly possible to secure the attention of the learner to any one for a period sufficiently long or sufficiently continuous to afford anything like a fair test of what, in this respect, it might be worth.

Practically, then, we have transformed our colleges into schools for imparting useful knowledge, and have thus, to a great degree, perverted their original design, which was to make them merely instrumentalities for systematically stimulating the mental activities. In our own College, the perversion has not gone so far as in many others, and, because it has not, we are frequently reproached with being behind the age. But the additions which we have made to the simple curriculum of the earlier years are numerous enough. They embrace mechanics, physics, chemistry, geology, mineralogy, history, English literature, Anglo-Saxon, political economy, constitutional law, and the calculus. Many of our contemporaries, more advanced than we, have added to these a part or the whole of the following likewise: French, Spanish, Italian, German, Gothic, Sanskrit, Hebrew, Chinese, comparative philology, ethnology, archaeology, physical geography, aesthetics, the fine arts, physical astronomy,

botany, zoölogy, animal and vegetable physiology, the philosophy of history, social science, and perhaps others.

If it is fit to introduce these things, or even a small part of them, into our colleges, then it is not proper any longer to keep up the pretense that our colleges are training schools whose functions are properly or possibly disciplinary. We have, in fact, converted our colleges into universities, and eliminated from them the gymnasial feature altogether. We have converted them, however, into universities only as it respects the character and the proposed range of their teaching, but not at all as it respects the elasticity and freedom of the university system proper. However we multiply the variety of the subjects imposed upon the learner, we still require him to accomplish the whole within the rigorously fixed limit of four years. There is a mode of escaping the embarrassment which this great multiplication of the subjects of teaching introduces; and it is one to which those of our colleges which have gone farthest in this direction have felt themselves compelled to resort: it is the adoption of the elective system of study, under which each individual student selects so many subjects as he can profitably pursue at once, and neglects the rest. This expedient meets the difficulty; and no other will do it, so long as the attempt continues to be made (and it is not likely soon to be abandoned) to compress the substance of the university into the narrow mold of the college.

But, in spite of the fact that our colleges have almost wholly lost the character they originally possessed, and that the subjects taught in them are taught mainly for their objective and not for their subjective uses, we find them still habitually spoken of as institutions designed to form and not to inform the minds of youth. There is no distinct recognition of the change which has taken place in them, and hence has resulted the confusion of thought and language on the subject which has been referred to above.

But, since this change has taken place in fact and is not likely to be undone, it is worth while to inquire whether there is not

something to justify it, and whether our colleges ought any longer to be conducted on the theory that their proper and exclusive function is to educate and not to instruct.

When our colleges were first founded, there was nothing between them and the elementary schools, and the elementary schools themselves were very imperfect. The requisitions for admission to them were very humble, and their attendance was principally made up of lads of tender age. It is easy enough to establish the truth of this statement, although the evidence we have in regard to it is indirect. It was not the usage in our own College, during its earliest years, as it has been recently, to record the ages of its matriculates. If it had been so, the evidence we are seeking would be abundantly accessible to us in the registers of admission. In the absence of such resources, our inquiry can only reach that limited number of cases in which graduates became in later life sufficiently conspicuous to secure notice in biographical dictionaries, or more extended memoirs, where the dates of their birth and graduation are usually given. From the examination of a number of such sketches have been obtained the results following.

Ogden Hoffman, one of our own distinguished alumni and a former member of this Board, was graduated in 1812, at the early age of thirteen. The eminent physician and surgeon, T. Romeyn Beck, was graduated at Union College, in 1804, at the same age.

The senior member of this Board at present (senior in the order of appointment) was graduated sixty-six years ago at Yale College, at the age of fourteen. Benjamin Rush, chairman of the committee of the Continental Congress on the Declaration of Independence, and an eminent member of the medical profession, graduated at Princeton in 1760, also at fourteen.

Gulian C. Verplanck, famous in many ways, graduated at our College in 1801, at the age of fifteen, and made the day of his graduation memorable by an exciting scene in Trinity Church, in which his indiscretion nearly lost him his degree. Our

former professor of chemistry and physics, James Renwick; Richard Stockton, Senator from New Jersey in 1796; the Rt. Rev. Manton Eastburn, Bishop of Massachusetts; J. McPherson Berrien, of Georgia, and Nicholas Biddle of Pennsylvania, also graduated at the age of fifteen.

Governor and Chief Justice Hutchinson, of Massachusetts; Gouverneur Morris, of the Continental Congress; Aaron Burr of unhappy memory; Chief Justice Joel Parker, of New Hampshire; Edward Holyoke and John Thornton Kirkland, presidents of Harvard College; Nathan Lord, president of Dartmouth College; Samuel Provoost, second chairman of this Board; Joseph Reed and Wm. B. Reed, of Pennsylvania: John Tyler, of Virginia; Joseph Hopkinson and John Sergeant, of Pennsylvania; Jonathan Dayton, of New Jersey; Professors J. W. Alexander and Henry Vethake; George Ticknor, of Boston; and the eminent surgeons S. W. Dickson and A. C. Post, of this city, all graduated at sixteen.

Among graduates at the age of seventeen may be enumerated Cotton Mather and Increase Mather; Chief Justice James Winthrop; John Hancock, first signer of the Declaration of Independence; Governor Jonathan Trumbull; Edward Livingston; Jared Ingersoll; William Samuel Johnson, first president of Columbia College under the new charter; Richard Rush; James A. Bayard; James Blair Smith, first president of Union College; John Wheelock, second president of Dartmouth College; Jonathan Edwards, third president of the College of New Jersey; Timothy Dwight, president of Yale College; Sereno Edwards Dwight, president of Hamilton College; Francis Wayland, president of Brown University; Edward Everett, president of Harvard University; Henry Reed; DeWitt Clinton; Gouverneur Kemble; Henry Wheaton; Theodore Frelinghuysen; Emory Washburne; Benjamin Silliman; George Bancroft; J. Addison Alexander; John McVickar; and Charles Anthon.

Graduating at eighteen, we find John Caldwell Calhoun; James Kent; Robert R. Livingston, chancellor; John Went-

worth, governor; John Cotton Smith, governor; James Otis; Timothy Pickering; Elbridge Gerry; Oliver Wolcott; Ambrose Spencer; William Cranch; Samuel Johnson, first president of King's College, now Columbia; Eliphalet Nott, president of Union College; Josiah Quincy, president of Harvard College; Jeremiah Day, president of Yale College; Jonathan Dickinson, president of the College of New Jersey; Horace Holley, president of Transylvania University; Isaac Ferris, chancellor of the University of the City of New York; William Ellery Channing; Ralph Waldo Emerson; Henry W. Longfellow; Bishop John Henry Hobart; Bishop Benjamin T. Onderdonk, and Bishop Charles P. McIlvaine. It would be easy to extend this list.

The minimum legal age of graduation is fixed by the statutes of Columbia College at present at nineteen years; and though a guarded power of dispensation is given to the Faculty, by means of which a candidate of remarkable proficiency or precocious mental or physical development may occasionally obtain a degree below the legal age, this power is very cautiously exercised, and never if the applicant is more than a year below the legal minimum. The consequence is that the average age of graduation in Columbia College is now between twenty-one and twenty-two years.

It is true that, in the early period of which we are speaking, there were students in the colleges above the age of boyhood. They were there because there were no better schools. But the system both of education and of discipline had to be adapted to the prevailing character of the academic body, and that was determined by the predominance of the juvenile element. Students more advanced in years could, of course, accommodate themselves to this; but it would have been an unpardonable mistake as well as a perversion of the original design to have attempted to accommodate the system to them. From this consideration resulted naturally the establishment of an invariable and strictly limited curriculum of study.

When, with the improvement of the secondary schools, the

colleges began to impose heavier requisitions upon candidates for admission, a longer time had to be given to preparation, and the average age of applicants advanced. The demand also on the part of the public for a more varied curriculum of study, which began to make itself heard early in the present century, was incompatible with a course of training designed for boys merely. The applications of very young candidates began therefore to be discouraged; and in some institutions, as in Yale College about the year 1820, statutory provisions fixed a limit below which applicants should not be received. In consequence of these measures, the average age of students in our colleges has for the last three-quarters of a century been gradually increasing; and this effect has been promoted by the very large modification, or, as we may more properly say, the complete transformation, which has taken place in the curriculum of study. Thus, with the progress of time, the extremely juvenile element has been eliminated from our colleges almost completely.

From the exact statements in regard to the extreme and mean ages of matriculates in Columbia College which have accompanied the annual reports of the undersigned for many years past, it appears as an ascertained fact that the average age of our entire student body is upward of nineteen years, with a slight tendency to increase; also that the average age of admission is over seventeen years; and consequently that the average age of graduation is over twenty-one years. No applicant below fifteen years of age is, under the statute, entitled to admission. If, by the exercise of the dispensing power entrusted to the Faculty, one is occasionally received at fourteen, it is because his proficiency and maturity are in advance of his years, and the exception counts for nothing.

The average age of the student body in an American college of the present time is greater than it was a century ago, by about three years. The college of that day stands to the college of this, very nearly in the same relation as that which Eton College in

England bears to the colleges of the University of Oxford. Eton and not Oxford was in fact the model on which our early colleges were constructed. That has remained substantially unchanged to the present time; ours have been so transformed that they have lost all resemblance to the original type. The average age of the Eton boys at the completion of their course is eighteen years, and they then go to Oxford. The average of applicants for admission to Harvard University, as reported by President Eliot, is also eighteen years.

Now it is certain that the educational system which is best adapted to the case of boys between fourteen and eighteen cannot be equally beneficial for young men between seventeen and twenty-one. During the earlier period, the mind is plastic, and a uniform system which disregards native differences between individuals, and assumes that a perfectly equal and symmetrical development is practically possible in every case, is susceptible of being plausibly defended. But experience teaches the hard and unalterable fact that nature cannot be forced beyond a certain limit which time distinctly brings to view; that there are differences between minds as decided as those between faces; and that when, in the process of development, these have become distinctly pronounced, it is worse than a waste of energy to attempt to extinguish them by any process of educational forcing. A true theory of education, a wise theory of education, is one which first seeks to detect these differences, and then endeavors to adapt itself to them. Nothing is easier than their detection. There is no educator of any experience who will not, after a few months' careful observation, pronounce with the most unhesitating confidence that such or such a pupil will never be a mathematician, or that such or such another will never make a linguist. It does not follow that he will say that these two ought not both to be exercised in both kinds of study. During the formative process, uncongenial studies no doubt have their uses. But there comes a time when the formative process practically ceases, and then the kind of mental exercise which is education-

ally profitable will be found in the study of subjects that are congenial.

The mind must work willingly in order to work profitably. It is the delight of knowing, it is the satisfaction of mastering, which stirs up the faculties to that spontaneity of effort which only can secure the substantial ends of education, increase of knowledge, and increase of vigor at the same time. At the average age, nineteen and a half years, of our College students taken as a body — an age which they reach, say, at the end of the Sophomore year — it is too late to apply with profit the principle which may very well govern educational methods for children, and which insists on confining every individual to the same unvarying course of study. The time has come, if it is ever coming in the history of a youth, when the inquiry should be: What is it that nature has intended in the fashioning of this mind, and how may we most effectually coöperate with nature for the accomplishment of this end? The scheme of study should, therefore, be copious enough to enable each individual to find in it what is best adapted to his case.

Nor is the question merely one of tastes; it is a question of possibilities. There are certainly subjects in every strictly prescribed course on which the labor expended by certain individuals is as completely wasted as if the whole time given to them had been employed in pouring water through a sieve. It is as true in education as it is in farming that the seed must be adapted to the soil or the crop will be a failure; and it is once more as true in education as it is in farming that the fertilizer which will make one soil prolific will be spent upon another in vain.

A system of elective study extending through the Junior and Senior years seems, therefore, to the undersigned to be a logical necessity of the condition in which we are now placed. Such a system, moreover, as urged by the undersigned in his last annual report, prepares naturally the way for and blends harmoniously in with the system of more advanced instruction designed for students after their graduation, which is one of the measures

now pending before the Board, and which it is hoped may soon be inaugurated in our College.

That this is the direction in which, in the distant future, our institution is destined to make its usefulness principally felt appears to the undersigned to be beyond a question. It is so because in this principal city of the continent, which is yet perhaps to be the greatest city of the world, there is need of an institution which shall stand forth as the expositor and the representative of the highest learning; and this institution and no other is capable of taking that high position, and must by force of circumstances be compelled to take it.

It does not follow, however, that our College need on this account abandon its present field of activity. It does not follow that, in aiming at something higher, it need suffer the undergraduate department to fall into neglect, or to be lost in the shadow of the superior development. The very contrary is more likely to be the case. In proportion as the College grows, in whatever direction, the impression of its importance and magnitude grows correspondingly upon the public mind; and this reacts to the benefit of all the departments. Nothing can more forcibly illustrate the truth of the remark here made than the observation of the recent history of those contemporary institutions which have already entered upon this field of superior instruction. As yet there are not many of these. Three only invite this examination, Harvard University, Yale College, and the College of New Jersey. The first two have been offering instruction to graduates for twenty or more years; the last for a briefer period. The most noticeable fact about them is that from the very commencement of this system of higher instruction there dates in every one a more remarkable era of undergraduate prosperity than has been experienced in any former period of the history of either. In the first mentioned of these, Harvard University, two causes have been conspiring to produce this effect, viz., the opening of instruction to graduates, and the large development of the elective system in the undergraduate course. In the other

two, the elective system has been but recently introduced, and is limited to certain studies of the Junior and Senior years, Yale in this respect being considerably more conservative than Princeton.

From a comparison of catalogues, it appears that, fifteen years ago, when the system of graduate instruction at Harvard University was still in its infancy, the number of resident graduates was only 9, and the number of undergraduates 385. This latter number had remained stationary for the previous eight years, having been 381 in 1857. During the year just past, the number of graduate students on the roll, most of them studying for higher degrees, is 51. The number of undergraduates is 813, having considerably more than doubled.

At Yale College, fifteen years ago, there were no resident graduates. The number of undergraduates was in that year 458. This number was actually less than eight years previously, the total number of undergraduates at Yale in 1856-57 having been 472. The catalogue for the present year shows the number in the graduate course to be 39, and the total of undergraduates to have advanced to 581, a gain of more than 25 percent.

At Princeton, fifteen years ago, there were no resident graduates, and the undergraduates numbered 248. This college had been for eight years stationary, having had 236 undergraduates in 1857. During the year just closing, the number of graduates under instruction at Princeton has been 48, and the total on the undergraduate list 413, showing an increase of 165, or 67 percent.

The growth of these institutions is the more remarkable from the fact that it is shared with scarcely any of their contemporaries. Bowdoin, Brown, the Wesleyan, Trinity, Middlebury, Union, Hamilton, Madison, and Rutgers are substantially where they were ten, fifteen, or twenty years ago. Williams had 224 on her list in 1857, and has 206 in 1880. Amherst alone has materially gained, her undergraduate attendance having increased since 1870 from 255 to 347. But Amherst since 1875 has

established the elective system in the Junior and Senior classes, and has provided for giving advanced instruction to graduates.

The figures here presented require no comment. They prove more conclusively than any argument could do that just in proportion as provision is made in any educational institution for the wants of students of superior grade, in the same proportion its attractiveness is increased for those of the inferior. And if there were no other reason to decide us to establish graduate classes, we might wisely do it for the sake of multiplying the number of our undergraduates. But that is an expedient which few colleges are strong enough to adopt.

Since it is evident that the institutions of which we have just been speaking have greatly grown in the popular favor within the past ten or fifteen years, it is an inquiry not without its interest how far this fact may have operated to our disadvantage, by drawing from this city the young men who in the natural course of things might have sought their education here. From the catalogues of fifteen years ago, it appears that the number of young men from New York City (Manhattan Island alone) in attendance on Harvard University was 13; the number at Yale College was 32; and the number at Princeton was 14. During the past year the corresponding numbers have been, for Harvard, 48; for Yale, 44; and for Princeton, 30; making a total of 122, more than twice as great as the former. There is good reason to suppose that were the same attractions offered here which are found elsewhere, many of these young men would be retained. Besides the 120 above mentioned, about 70 or 80 more, also from New York, are dispersed through the other colleges in this and neighboring states, making 200 in all who seek their education elsewhere. If we strike from our own list all the names of students not residing on the island, there remain but about 150 undergraduates of this College who are residents of New York. This is less than a third part of the young men of our city who are at this moment under a course of collegiate instruction. Assuming the ratio of undergraduate students to population to be

here what it has been ascertained to be for the country generally, as 1:2,500, and assuming that the island contains at present 1,200,000 inhabitants, New York should furnish to the colleges a constant supply of fewer than 500 undergraduate students of arts. Supposing the ratio to be, as it is in New England, 1:2,000, the number of undergraduates furnished by the city should be 600. On this supposition, but one-fourth of the whole number come to Columbia College. About one-third resort to colleges at a distance, one-third to the College of the City, and the rest to the City University. The College of the City has nominally on its list, indeed, a much larger number than is here assigned to it; but only a comparatively small proportion of these are really candidates for a degree. They are received into the College from the primary schools without special preparation, and with only the design to acquire some little knowledge of a higher grade than these schools furnish; but the great majority of them fall away after a year or two, and the only way of ascertaining approximately what proportion of the collegiate students of the city (understanding the term in its proper sense) is absorbed by this institution is to multiply by four the annual number of its graduates. There were graduated from the College in June, 1879, just 50 young men, of whom 30 received the degree of Bachelor of Arts, and 20 that of Bachelor of Science. Strictly speaking, these last should hardly count for our purpose; but including them we may say that the number of collegiate students, properly so called, belonging to New York in the College of the City, is just about 200. Of the 600 students then furnished to the country by the city of New York, 150 come to Columbia College and 450 go elsewhere. It would, no doubt, be possible to secure to ourselves a much larger proportion than this, but that can only be done by offering our young men as powerful attractions to induce them to remain, as other institutions offer to draw them away. Should the measures now pending before the Trustees meet with favor, it is the full conviction of the undersigned that the desired result will speedily

follow, and that the growth of the College in its undergraduate department in the next ten years will be such as to surprise the most sanguine of its friends.

It will, of course, be understood that the scheme of higher teaching which it is proposed immediately to inaugurate is only a beginning. With succeeding years this scheme will naturally be amplified, not only in the departments already represented in it, but by the opening of new ones. This, of course, will require the creation of new chairs and the appointment of new officers; and this will entail upon us constantly new expenditures. But with increasing expenditures will also come increasing revenues; and if the growth of revenue from sources now distinctly visible should not keep pace with growing needs, we may safely count that new sources, discernible already to the eye of prophecy, will open up to us. Either the history of all great institutions of learning in this country or elsewhere is deceptive, or when we shall have faithfully applied the means we have in the truly grand work in which we propose to engage, other means will come to our aid and strengthen us for still larger labors. Many educational institutions in our country, it is true, have languished and are still languishing for the lack of that pecuniary aid which they do not receive and probably will not; but this is because the elementary work in which they are engaged has nothing in it to stimulate the enthusiasm of those generous lovers of good learning whose thousands are always at the service of such an aim truly to promote the increase and diffusion of knowledge among men.

Hitherto, Columbia College has been the recipient of hardly a single benefaction of this description. The reason is not far to seek. Hitherto, the work she has been doing has not been above her strength; and neither on the elementary nor on the professional side has there been any opening for an indefinite expansion. But when we enter on the field of general knowledge, there is room for an enlargement of the circle of operations which is entirely without limit; and there is a grandeur in the task which

fires the imagination and enlists the ardent sympathies of all who rejoice in the intellectual conquests of the race. It has been true universally of every institution which has entered upon this larger and nobler field that whenever it has reached the limit of its own resources its coffers have been replenished and its power of usefulness renewed by the generosity of those large-minded men who will never permit a good work of this nature to fail in the earth. And those great and large-minded men, who are always ready with help at need, are men who, in whatever concerns the instrumentalities for promoting human progress, understand the true philosophy of giving. They know that, in any difficult work, the way most surely effectual to accomplish great results is to help those who are strong already. They know that the power of usefulness of an educational institution grows with increase of means much more rapidly than in the simple ratio of the increase; as the diamond grows in value with enlargement of its linear dimensions, but in a very high power of such enlargement. They feel, therefore, that, though it may seem less like benevolence, it is more the part of true wisdom to give to the strong rather than to the feeble; so that their benefactions, instead of being exhausted in maintaining the life of the immediate beneficiary, may rather find in the beneficiary an organ for transferring to others the benefits they are capable of conferring, and so scattering them abroad over all mankind. Hitherto, we have not been loaded with such benefactions because we have not needed them. They have not been thrust upon us, because it has not yet been apparent to the world that we have been doing all we can with the resources which we do possess. Whether the world is right or not in this suspicion, it is certain that the thing the world suspects we do not is the thing we ought to do. While the funds entrusted to us are not given us to waste, so neither are they given us to hoard. Our fellow citizens have a right to the largest benefit which it is possible to secure from their judicious management. And while it would be both unwise and unpardonable to attempt to do with them more than we can,

we should allow no temptation and no timidity to influence us to do with them less than we can.

If this shall be the guiding principle animating this Board of Trustees, the future course of our institution will be steadily onward and upward; the circle of its teaching will grow larger from year to year; and no very keen discernment is necessary to perceive in the not distant future the dawning of the day when no seeker after knowledge shall fail to find here what he requires, and no department or branch or ramification of human learning or human science shall want here its living expositor.

And in that day and even earlier, it is earnestly to be hoped that no sincere and earnest seeker after knowledge, of whatever age, sex, race, or previous condition, shall be denied the privilege of coming here to seek. It is to be hoped that, as the power of usefulness will be great which this favored institution will be permitted to hold in her hands, so she will be disposed to exercise the power in a spirit truly catholic.*

* Report for 1879-80, pp. 44-63.

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IV

ELECTIVE SYSTEM

JUNE 5, 1876

THE elective system of study has now been to a moderate extent in operation in our College for four or five years. The anticipations of favorable results from its introduction, originally entertained, have been more than verified by the actual experiment. The students pursue with increased alacrity the studies which they themselves elect, and the instructors find their task made more agreeable by the interested attention of the classes. As yet it has been impracticable to give a large development to the system. It has been extended only to the Senior class, and to that class only by offering an alternative choice between a limited number of studies arranged in pairs. What is now most needed for the improvement of the undergraduate course is, after the reservation of a certain number of subjects indispensable in any system of liberal education as subjects to which all shall be required to attend, to throw open a wide freedom of choice as to all the rest. This might with propriety be done with the studies of every year after the first, but should by all means be done with those of the Junior and Senior years. The disadvantage of a close curriculum of study enforced equally upon all is that it confines the teaching of the College within an exceedingly narrow scope, and makes it impossible that the institution shall become what the university in its theory is designed to be — a *studium generale*. The range of the teaching of Harvard University in its department of arts at present, as compared with that of any college maintaining a close curriculum, may be inferred from the fact that, while the latter teach only so much as any single student can learn during the period allotted to the course, the former offers a choice among studies which in the aggregate amount to fourteen times as much as any single student could accomplish.

With most American colleges a close curriculum of study is a necessity forced upon them by their financial feebleness. To enlarge the scope of their teaching and to increase the freedom of option between different studies is to multiply classes or subdivisions, and to necessitate an increase in the corps of instruction with corresponding increase of expenditure. The elective system will, therefore, probably never be universally adopted, and perhaps not generally. It will even be opposed, doubtless, in the future, as it has been in the past, for reasons drawn from a theory of education suited to a period when college students were generally younger in years than at present, and when the circle of human knowledge was much narrower. But it is sure to make its way with all those institutions whose resources are such as to allow its introduction. And it is only upon the foundations afforded by this limited number that we can hope to see in this country grow up universities in which, as in those of the continent of Europe, educational culture shall receive its highest and fullest development. Among our older collegiate institutions, there is no one which has hitherto adhered more persistently to the theory of a close curriculum than Yale. When, nearly fifty years ago, the agitation in favor of what has since been called the new education began, the Faculty of Yale College were earnest in resisting the threatened encroachment on the time-honored system which had so long held peaceful possession of all our schools of higher learning. Their argument in favor of the actual system, with its close curriculum of study, was one of the earliest contributions to the literature of the subject in this country. But this same institution has now, within the past few weeks, announced an entire change of her whole plan; and henceforth her course of teaching will be nearly or quite as largely elective as that of Harvard has been for the past ten or fifteen years.

In Columbia College, it seems to the undersigned that a similar change must soon be recognized as a duty. This institution is one of the few which may really be able to make them-

selves universities in the highest sense — schools in which the seeker after knowledge in any form may find what he wants. The development must, of course, be progressive, but there can be no progress without a beginning. The first step should be to utilize the means we have of enlarging the scope of our teaching without necessarily increasing the number of our teachers. In order to this, the different subjects taught in each class should be taught in different hours, so that the student who desires to select any two or three may not find it impracticable to combine them, by reason of their interfering with each other. But in order to this again, the hours of daily instruction must cease to be restricted to that brief period of the morning lying between ten and one o'clock.

The scattering the hours of instruction over the day, however, involves the necessity of providing study rooms for the useful employment of the classes in the intervals between their lectures or recitations, and such rooms do not exist in the present College edifice. The undersigned believes that among the officers of the Faculty of Arts there is but one opinion as to the desirability of making the improvement in our system here indicated. Leading members of the Board of Trustees have expressed themselves strongly in favor of it, when, upon former occasions, the proposition has been brought forward by the undersigned. Especially the honored member of our body who was so long and so uniformly selected to fill the chair after our permanent chairman had been called to higher duties elsewhere, and whose valuable counsels have been, to the universal regret, more recently wanting to our deliberations, felt and constantly expressed the warmest interest in this scheme, and the most earnest desire to see it realized.

Nothing is wanting to its realization but the enlargement of the accommodations provided for the department of arts. With apartments in which students could profitably employ themselves when not under instruction, and corresponding provision for the teachers that they may pursue their studies and investiga-

tions when not employed in teaching, the efficiency of our College as a school of instruction could be made greater than at present manifold.*

JUNE 2, 1879

The building now in process of erection is sufficiently capacious to accommodate, if it were necessary, every class in the department of arts for which, under the scheme of instruction hitherto followed, it has been as yet necessary to provide. Practically, therefore, unless the old building should be demolished to make way for a structure better adapted to academic uses, the accommodations available for this department are doubled in extent. It will accordingly be possible, if such should be the pleasure of the Trustees, to carry out, without further delay, certain improvements in the scheme of instruction which have heretofore been regarded with favor, but have been impracticable of execution because of the narrowness of the accommodations. Prominent among these is the extension of the elective system of study, the only plan by which it is possible for us to comprehend within our educational scheme the great variety of important subjects which must be taught, if we would keep abreast with the progress of knowledge, or would make our teaching in any of them thorough. A century since, when the course of undergraduate study embraced little beside the ancient classics and the pure mathematics, four years afforded the student time enough, but by no means too much, to master this limited range of subjects well. Now that the curriculum has been loaded with a dozen or more additional subjects, any one of them sufficiently extensive and important to fill up the entire time profitably, it is a hopeless undertaking to attempt to teach them as they deserve to be taught; and if they are all crowded into a single obligatory course of only four years, the greater part of them can only be taught in semblance. Yet the demand of the public is that none of these things shall be omitted, and the college which fails to include all of them in its scheme of

* Report for 1875-76 (manuscript).

study suffers in consequence in the public estimation. Moreover, it is not enough to include them. As every study has its especial devotees, there is continual complaint from these that this particular branch, or that other, does not receive the amount of attention which is due to its importance. Yet when there is a limit to the total amount of time disposable, it is impossible to favor one study except at the expense of some other, or perhaps of all the others, so that it has become an absolute impossibility to construct an invariable curriculum of study, limited to four years, which shall be universally satisfactory.

Many complaints have reached the undersigned on this subject, in regard to our own College, within the last few years, both as it respects our omissions and as it respects the insufficiency of our teaching in what we undertake. It has been inquired why French, and Spanish, and German, and Anglo-Saxon, and botany, and physiology do not form parts of our regular course; and why Sanskrit, and Hebrew, and Arabic, and quaternions, and the calculus of variations are not offered to those students whose tastes lie in the direction of those studies. These are a few of our omissions. As to our insufficient teaching, on the other hand, one critic asserts that we have driven chemistry into a corner; another that we have turned history out of doors; a third that mineralogy and geology are almost denied a hearing; a fourth that the English language and English composition are hardly taught at all. And so it goes on. No subject, in the opinion of those who esteem themselves the best qualified to judge, is properly provided for in our program of study. Nor is it possible to make such provision as shall be universally satisfactory, except by indefinitely extending the duration of the course on the one hand, or by ceasing to require the candidate for graduation to include in his special range of study every subject which the College undertakes to teach, on the other.

The principle of elective study is the key which solves the whole difficulty. By limiting the student to a certain number of

subjects, sufficient time may be allowed him to perfect himself in each, and sufficient time may be allowed the teacher to do his subject justice. The College may at the same time enlarge the scope of its teaching, and embrace in its general scheme of instruction every subject of literary or scientific interest, without in any degree diminishing the thoroughness with which each branch is taught. And it is only in this way that, in the present age, any college can hope to secure and maintain a really high character as an institution of learning. Its teachers may be learned, and, personally, may be able; but the character of the institution as an institution depends less upon what they are than upon how much they teach. The amount of their teaching is limited by the time allowed them to accomplish it in; and that time will be reduced to a minimum when every subject must have its place in a close curriculum limited to four years.

It is now nearly ten years since the justice of these views was substantially recognized by the Trustees, in the adoption of resolutions offering to the Senior class in our College a limited option in the selection of their studies. Two circumstances conspired to make the introduction of the elective system, to an unlimited extent, at that time, impracticable. Both of these had their cause in the narrowness of our accommodations. It was found on this account to be impossible to assign different hours in the scheme of daily attendance to all the different subjects presented for option. Of any two allotted to the same hour, therefore, both could not be chosen. To a certain extent, this circumstance limited the freedom of option. But this difficulty was a consequence of the fact that the scheme of daily attendance embraced only three consecutive hours of the day. It admitted of removal by extending the scheme to four or five. But such an extension would have necessitated provision for the occupation of the students during the hours intervening between their scholastic exercises, and such provision demanded rooms for reading or study which did not exist.

The elective system, therefore, to the extent to which it has

been introduced with us, has been employed under circumstances which deprived it in a measure of its advantages. While a student has been at liberty to combine Greek and Latin, he has not been permitted to choose both Greek and mathematics, or Latin and physics, at the same time; and so of other subjects. Moreover, since only so many hours per week could be given to these optional studies as had previously formed parts of the regular obligatory scheme — a consequence of the necessity of continuing to confine instruction to three consecutive hours daily — the liberty of option has not secured to the student any considerable enlargement of the extent of the course.

These disadvantages may be removed in case the old building as well as the new continues to be available for the uses of the department of arts.

The elective system may be employed more extensively with the Senior class than hitherto; the option may be entirely free, so that the studies presented for choice may be combined in any manner most satisfactory to each individual; and the fullness of the course of instruction may be increased to any desired extent. The system may also be extended with advantage to the Junior class.

Studies, moreover, which have hitherto been excluded from the course — such as the modern languages, natural history, botany, animal and vegetable physiology, practical astronomy, Anglo-Saxon, and the Semitic tongues — may find a place in it without encroaching upon the time given to those which have place there already.

The enlargement which this system permits an institution to give to the extent of its teaching, as well as to the variety of its subjects, is illustrated in the case of Harvard University, where it has been very fully introduced, and where, according to the statement made some years since in the annual catalogue, the opportunities offered to the student embrace about seven times as much as any single individual can accomplish in the space of four years.*

* Report for 1878-79, pp. 45-49.

MAY 1, 1882

The argument by which the elective system of study in college is justified is that it affords to minds of different native aptitudes the opportunity to exercise themselves upon subjects most in harmony with their idiosyncrasies, and which they are therefore certain to pursue with the greatest advantage. It is undeniable that the benefit derived from the prosecution of any study is proportional to the extent to which, and it may be added the facility with which, the subject is mastered. The satisfaction of the student in pursuing his task has precisely the same measure; and hence it is fair to presume that, where freedom of choice among different subjects is offered to a body of young men, each will select such as he has experimentally found to afford him the greatest pleasure, and therefore the greatest profit in their pursuit. It may, therefore, in general, be safe to leave the selection in the students' own hands. As the bodily appetite may be trusted to indicate to an individual in a state of health the kind of food most convenient for him, so the intellectual taste will point with equal certainty to the pabulum best adapted to invigorate the powers of the mind. The earnest student, therefore, animated by a sincere desire for improvement, needs no guidance from another to enable him to choose the course likely to be most advantageous for himself. But it is unfortunately the case that all young men in college are not earnest students, nor are all deeply impressed with the importance of improving their opportunities. There are some who seem to be constantly calculating what is the minimum of labor which will enable them technically to fulfill their academic obligations, and avoid the disgrace of being proclaimed deficient. Happily this class of persons is not numerous, but it exists. As to them no mental effort is pleasing, they are not likely to select a list of studies from a conscious preference for the subject matter of them. Their choice will rather be dependent upon a calculation of the amount of work each subject will probably involve, and will be given in favor of the lightest. It is not, in fact, true that any of the subjects pre-

sented in the college course can be pursued properly without labor, or that any such subject affords insufficient material to occupy profitably all the time allotted to it. But there is certainly a difference between some of these as to the amount of work necessary to enable the student to make a tolerable show in the classroom, and thus to escape a report for discreditable deficiency. The careless or reckless student will naturally be inclined to make his selection from subjects of this character, and in this fact we find one of the main arguments used by those who contend for the maintenance of an invariable curriculum of study in colleges. This class of educationists contend that what the careless or reckless student will probably do will be done more or less by all; and that it is not safe to give young men to any extent the choice of their own studies. This argument, however, has no better foundation than hypothesis. It begs the question by assuming that a result will happen, and reasoning upon the assumption as if it were an ascertained fact. Experience has abundantly proved that the assumption is unwarranted. The great body of young men in college are really interested in study. They appreciate the value of their opportunities and are earnestly desirous to improve them to the best advantage. They select their studies, when free to do so, with an intuitive recognition of those which they are most capable of mastering, and from which, therefore, they are conscious that they will derive the greatest profit. If there are any who are less earnest or are likely to be less honest in their selection, it is possible that a rule may be devised to control their heedlessness or check their perversity, by making a selection for them, without in the meantime departing from the principle that studies should in all cases be chosen with reference to the native aptitude of each individual. During the Freshman and the Sophomore years the course of study is uniform for all students, and, with the exception of the modern languages, where, however, there is no escape from taking some one, is compulsory for all. This invariable curriculum was originally constructed on the theory that, while the formative process

of the mind is going on, while the faculties are unfolding, the effort should be impartially made to give an equal and full development to all the mental powers. It has even been held by some that there are no original or native differences between different minds, but that all the diversities which we observe in actual life are the result of education. If this hypothesis were true, it would be possible, by a judicious system of early training, to produce in every case a perfectly symmetrical mental development; and the beautifully "rounded culture" which is so often spoken of as the easily attainable end of a truly philosophical scheme of education would be a common possession. That it is not so by any means is an entirely notorious fact, notwithstanding that in all our colleges, for two centuries past, the whole educational machinery employed has been professedly intended to produce this very result. The theory of the curriculum has been that it offers an equal stimulus to the activity, and an adequate material for the exercise, of each of the mental faculties, the memory, the powers of observation, the imagination, the reason, the reflective faculties; so that if the germs of all these are equally vigorous and possess in the embryonic state an equal capacity for development, they ought to respond equally to the influences brought to bear upon them, and to continue to maintain, as the mind expands, that perfect balance which it is the design of the theory to produce. That such a result is not attained in one instance in a thousand need hardly be said. Those who maintain that it ought to be might argue with some plausibility that the fault is in the curriculum — that it is not what it was intended to be, equally adapted to foster the growth of the imagination and the reason, the memory, and the perceptive powers, and that the irregular results actually reached are a consequence of this imperfection. If we were to allow weight to this argument, we should find the effect upon our own mind to be very depressing. The curriculum is not the creation of yesterday, nor is it the work of a single man. It has been shaped in the light of experience, and it has received the stamp of the

approval of several generations of able educators. If an educational scheme, fashioned under such circumstances and handed down to us as the ripest fruit of the wisdom of the centuries, is found to be thus ill-adapted to its avowed end, we may well despair of the possibility of creating anything of the kind which will answer the purpose. But the argument cannot be admitted; for, if it were true that the inequalities of development which we observe to take place in different minds similarly subjected to the educational influences of the curriculum were due to the imperfection of that instrumentality, it would follow that these irregularities would be the same for all minds; that is to say, that if in one there should appear to be an excessive development of the imaginative faculty, this same excess should appear in all the rest; and so of the other powers. But this is not at all what actually happens. We see precisely the same provocatives offered to different minds producing widely various degrees of activity; and we see a certain number grasping with eagerness and pursuing with intense interest studies which others regard with indifference or turn from with disgust. It thus happens that there is no study in the curriculum which does not find minds to which it is acceptable, and there is hardly one which to other minds is not destitute of attractions. These extreme diversities of effect serve to prove that the curriculum is a good one for its intended purpose; but they prove at the same time that the theory which the curriculum was intended to subserve, that is, the theory that all minds are capable of an equal development in all their faculties, is completely untenable.

It is nevertheless a true educational policy to subject all minds alike, during the growing period, to similar conditions. To all alike should be offered during this period the same variety of provocatives to activity, though all will not be offered with equal success. The result certainly will not be, as the theory contemplates, to produce a symmetrical development; because nature has provided that perfect symmetry shall be no more the characteristic of the mind than of the body; but it certainly will

be to make evident what kind of an unsymmetrical mind nature has provided in each particular case. The instructor need not hope, by any exercise of patience or skill, to mold the mental capacity of a particular pupil, so that he may be equally capable of any kind of intellectual labor — may, for example, with equal facility produce a sublime epic, or solve an intricate problem of celestial mechanics; but he will certainly succeed in finding out to which of these two efforts, if either, the mental powers of his pupil are best adapted.

The enforcement, therefore, of an invariable and well-arranged curriculum of study during the earlier period of mental development is an educationally judicious plan, because, while the native aptitudes of the mind are still unknown, it is desirable that the effort made to stimulate into activity the different mental endowments should be applied with entire impartiality to all, for the very purpose of discovering those which are most susceptible to this stimulus, and those, therefore, which are to determine the future intellectual character. This discovery will be made by the teacher unavoidably, and will be clear to him after a very limited period of experiment. The teacher, therefore, in the light of this discovery, will be able to direct the studies of his pupil into such channels as are likely to lead to the most profitable results. And he perhaps may be able to give this direction more wisely than the pupil, guided only by his instinctive feeling of preference, would be able to do for himself. Now, as, during the Freshman and Sophomore year in our College, our students are under the test of a uniform curriculum of study, enforced in all its details with impartial strictness upon all, it happens invariably that the character of mind of each becomes perfectly well known to the professors and other officers engaged in the instruction of those classes, long before the arrival of the time when, under existing rules, the choice is open to them to select their own studies for the remainder of their college course. It is a question worth considering whether, in the case of some, if not of most, this selection of future studies might

not be more judiciously made by the teachers, who have had these opportunities of observation afforded by the instruction of the same persons during the years preceding, than by the students themselves. In the cases of the really earnest students, it is hardly probable that the result would be materially different, in whatever way the choice should be made; but in regard to others the probability is that the choice of the teachers would be most judicious. A rule, of course, could not be made discriminating. It would not be productive of advantageous results to designate a certain number as worthy to be trusted in selecting their studies, and to cast upon others an implicit reproach by denying to them this privilege. The question, therefore, resolves itself into one of the greater or less liability of abuse of their freedom, by a minority of the individuals concerned, and it is possible that this may not be great enough to make any disturbance of the present system advisable. It might, however, be worth while to require that every student, after having made his selection of studies, should be required to submit it for approval to such members of the Faculty as from their past opportunities are best qualified to judge of the fitness of the choice for the individual, or perhaps to consult such officer before making the choice.

And here it occurs to remark that the teachers of preparatory schools have it in their power to render an important service to the instructors of the students newly received into college, by communicating the results of their observation, during the period of school instruction, of the mental characteristics of the candidates sent up by them for admission. Such information might be conveyed in the testimonial usually furnished by the teacher as to the general qualifications of the pupil recommended by him, and would furnish useful hints to the college officer as to the mode of treating such particular cases. It would seem to be worth while to add a requisition of this kind to the conditions imposed by our rules upon candidates for admission. It might take the form of requiring that each such candidate should

bring from his last instructor a certificate as to his moral character and a specification of the studies for which, during his course at school, he has shown a preference, or, if such is the case, a special aptitude.*

MAY 7, 1883

The elective system of study, which was introduced to a limited extent into the undergraduate course of study as long ago as 1872, but which was extended in 1880 to embrace a large proportion of the studies of the Junior and Senior years, has been watched, as to its results, since the last-named date, with great interest by both Faculty and Trustees. In the last annual report of the undersigned, there were given summary statements showing the proportion in each class which had chosen each of the several subjects offered them for election, in order to discover, if possible, the directions in which the prevailing preference lies. These statements contained the results of the record for the years ending in June, 1881, and in June, 1882. For the current year the record is as follows, those subjects being first given which are elective by both Seniors and Juniors, then those which are open only to Seniors, and, finally, the more limited number, which only are offered to the two lower classes:

STUDIES ELECTIVE BY STUDENTS IN COLUMBIA
COLLEGE, 1883, WITH THE NUMBER OF
STUDENTS ELECTING EACH

Studies Elective by Both Seniors and Juniors *

Studies	Seniors Electing	Juniors Electing	Total Electing
Greek	27	32	59
Latin	33	50	83
Physics	26	39	65
Mathematics	8	37	45
French	17	27	44
Spanish	4	7	11
Italian	10	3	13
German	18	22	40
Botany	4	14	18

* Number in class: Seniors, 60; Juniors, 61; Total, 121.

* Report for 1881-82, pp. 20-26.

ELECTIVE SYSTEM

STUDIES ELECTED IN 1883—*Continued*

Studies Elective by Seniors Only

Studies	Total Electing
Astronomy	50
Philosophy	36
Chemistry	10
Political Economy	21
Geology	12
Anglo-Saxon	5
Sanskrit	1

Studies Elective by Sophomores and Freshmen*

Studies	Sophomores Electing	Freshmen Electing	Total Electing
French	46	53	99
Spanish	3	4	7
Italian	1	0	1
German	23	33	56
Swedish	1	0	1

* Number in class: Sophomores, 74; Freshmen, 90; Total, 164.

These results, though generally similar to those of former years, show likewise some differences. Thus, the proportion selecting the ancient languages is greater in the Junior than in the Senior year, but is less in 1883 than in 1882, as it was greater in 1882 than in 1881. The proportion selecting physics is substantially unchanged, but the relative number choosing mathematics is somewhat diminished. French and German are both favorite studies, and with the upper classes appear to be equally so, though in previous years French has largely taken the lead. With the lower classes it is otherwise, French leading in the proportion of about seven to twelve.

Of the studies offered to Seniors only, it appears that astronomy and geology are less numerously attended than in previous years, while in philosophy there is a very noticeable gain. Political economy and chemistry remain about as in the years preceding, and the same is true of Anglo-Saxon, which latter study is now obligatory on all Juniors, and is elective for Seniors only.

In the Sophomore and Freshman classes, the only subjects open to election are the foreign languages, but every member of each of these classes is obliged to take at least one such language. From an examination of the summary given above, it will be seen that the two languages French and German are almost universally preferred, all but four of the ninety members of the Freshman class, and all but five of the seventy-four Sophomores, choosing one or other of these languages. In the Freshman class the proportion choosing French is about three-fifths of the whole, while German is the choice of rather more than one-third. In the Sophomore class nearly five-eighths have chosen French, and one-third German. Of the classes united, the proportion choosing French is rather below five-eighths, while about one-third have shown a preference for German. The other languages have hitherto appeared to attract a comparatively small number of volunteers, but this number will no doubt increase in future years. Considering the relations of our country with Spanish-speaking peoples, the moderate interest heretofore shown in the Spanish language has been rather unexpected. The causes now in operation tending to promote the frequency of intercourse on the part of our fellow citizens with those of the Mexican republic will doubtless soon make an acquaintance with the Spanish tongue a matter of necessity to a constantly increasing number of our young men beginning life.

The total number of students in all the classes pursuing the study of each of the foreign languages is exhibited in the following statement:

TOTAL NUMBER OF STUDENTS IN ALL CLASSES PURSUING
THE STUDY OF THE MODERN FOREIGN LANGUAGES,
FOR THE YEAR ENDING JUNE, 1883

Languages	Number Pursuing
French...	143
Spanish.....	18
Italian.....	14
German...	96
Swedish.....	1
Anglo-Saxon.....	5

For the purpose of comparison with former years, the numbers are given in the summary following, for each year separately, and for all together:

TOTAL NUMBER OF STUDENTS IN ALL CLASSES PURSUING
THE STUDY OF THE MODERN FOREIGN LANGUAGES,
FOR THE THREE YEARS 1881, 1882, AND 1883 *

Languages	1881	1882	1883	Total
French	111	146	143	400
Spanish	24	15	18	57
Italian	17	7	14	38
German	92	78	96	266
Danish	0	2	0	2
Swedish	0	0	1	1
Anglo-Saxon	10	13	5	28

* Number of students electing: 1881, 279; 1882, 293; 1883, 285; total, 857.

It is to be observed that Anglo-Saxon was elective for all the classes in 1881 and 1882, but that in 1883 it was compulsory for all the Junior class, and elective for Seniors only.

If we compare in like manner the numbers pursuing other subjects in successive years, we shall obtain the following results:

TOTAL NUMBER OF STUDENTS PURSUING SUBJECTS OTHER
THAN THE MODERN FOREIGN LANGUAGES, FOR THE
YEARS 1881, 1882, AND 1883 *

Subject	1881	1882	1883	Total
Greek	65	81	59	205
Latin	72	99	83	254
Mathematics	55	60	45	160
Physics	102	59	65	226
Botany	9	27	18	54

* Number of students electing: 1881, 108; 1882, 120; 1883, 121; total, 349.

The foregoing are studies elected by Seniors and Juniors. The following are of Seniors only:

TOTAL NUMBER OF SENIORS ELECTING SUBJECTS OTHER
THAN THE MODERN FOREIGN LANGUAGES, FOR THE
YEARS 1881, 1882, AND 1883 *

Subjects	1881	1882	1883	Total
Astronomy.....	48	47	50	145
Philosophy.	19	23	36	78
Chemistry	29	26	10	65
Political Economy.....	10	19	21	50
Geology.	49	16	12	77
Sanskrit.	0	1	1	2
Anglo-Saxon	0	0	5	5

* Number of students electing: 1881, 49; 1882, 53; 1883, 60; total, 162.

It thus appears that the studies for which the most decided preference is shown are the ancient languages, physics, and astronomy. Among modern languages, French takes the lead, and German follows next in order, though with a noticeable difference. Nearly one-half the entire number of students in the College pursue French, and about one-third German. The Scandinavian tongues and the Romance languages of Peninsular Europe are as yet less sought.

The working of the elective system in our College has thus far amply justified the anticipations of those who advocated its introduction. While the maintenance of a close curriculum of study during the first two years of the course has preserved its disciplinary character throughout all that early period of life in which the mind continues to be plastic — a period which can hardly extend beyond the nineteenth year, the average age at which our students enter upon their Junior studies — the freedom which allows the remaining studies to be adjusted to the peculiar aptitudes of individuals stimulates more willing effort, and insures at once greater pleasure to the student in his work, and to the teacher greater satisfaction with the results practically attained.

The objections to the elective system heretofore urged have been founded in part upon assumptions not in harmony with facts, and in part upon *a priori* reasoning from the supposed

weaknesses of human nature. The first class of these arguments takes it as a postulate that the college student throughout the whole period of his tutelage continues to be a proper subject only for the formative processes of education, and not for those whose principal object is to inform. On this hypothesis, it naturally follows that the teacher should possess the exclusive authority to dictate the character of the studies to be pursued, and the extent to which each should be carried. And, as the object of this disciplinary species of education is to develop those faculties of the mind which seem to be least vigorous or least active, it would seem to be an unavoidable corollary from this theory that preference should be given to the studies which the pupil would be least likely spontaneously to choose. If this doctrine be accepted, the elective system of study in college must be admitted to be entirely indefensible. Yet, when this assumed period of formative education has passed, the further or post-collegiate education of the student involves, from the necessity of the case, the exercise of election in the choice of study to the fullest extent. In preparing himself for the duties of active life, every man becomes unavoidably a specialist of some sort, and his whole training, mental or manual, must be subordinated to this specialty. Now it has been shown by the undersigned, in a former report, that, in the early period of the history of American colleges, it was a very common thing for students to graduate at ages when they are now only thinking about entering college, or even at ages at which they would not even be eligible to enter a college like ours — say from thirteen to fifteen — while graduation from fifteen to eighteen was a very common occurrence. In those days, it was very justly held that the entire course of collegiate study should be constructed with strict reference to its disciplinary character; because, while it was in progress, all the powers of the youth under instruction, mental and physical alike, were in process of growth and development, and every educational influence tended directly to give shape to the intellectual character. And yet, even in that state of things, young

men were usually turned over to the elective system of professional study, or other preparation for the business of life, earlier than the average age at which the undergraduate of our College attains the same freedom; for this is not in general until the age of nineteen, an age at which, in the year 1820, many a young man was prepared, so far as education is concerned, for the practice of medicine or for admission to the bar. The fact that the undergraduate course of instruction in modern colleges extends to so much more advanced a period of life than it did a century ago is therefore evidence that, in order to apply to our practice the principles which the educators of that time applied in theirs, we must do what they could not with propriety do, and that is, introduce the elective system into the undergraduate course. The state of facts has entirely changed, and the error of the objector consists in arguing as if no such change had occurred at all.

The other form of objection above referred to consists in arguing, from the general principles of human nature, that the young man who is allowed a voice in the selection of his studies will necessarily use it to his own disadvantage. This argument assumes it to be an axiomatic truth that all men naturally hate labor and that they will avail themselves of every possible expedient to escape it. It further assumes that the different studies embraced in a systematic course of educational training exact different degrees of exertion for their successful pursuit, while studies which present the greatest difficulties are supposed to be the most educationally profitable. Since, therefore, young men who are left free to choose their own studies will inevitably consult their own ease in doing so, they will be sure to avoid those from which they might secure the largest profit, and select such as are likely to give them little trouble and afford them less benefit. This form of reasoning, however, is a mere *petitio principii*. It involves the tacit assumption that the greater or less difficulty of acquisition ascribed to a subject of knowledge is a positive quality inhering in the subject itself, and is therefore

identically the same thing to all minds; whereas in point of fact this difficulty has no existence at all except relatively to the mind to which the subject is presented. The same subject may be difficult to one mind and easy to another; and two different subjects, popularly esteemed to be very unequally difficult, may be placed upon the same level in point of difficulty when each is judged by a different mental standard. The question here at issue is one which cannot be settled by any kind of *a priori* argument. It is one which can only properly be decided in the light of experience; and it is one as to which that kind of evidence is peculiarly appropriate. In every case in which the actual results of trial have been brought into evidence, the anticipations of objectors have signally failed of verification. Subjects commonly called dry, or rated as "hard," have proved in practice to be even more attractive than those which are commonly believed to impose the lightest burden of labor upon the learner. And this apparent anomaly may be largely explained without attempting to deny the reality of that human weakness which is so frequently insisted on, the aversion of mankind to labor. For there are many minds to which the so-called most difficult subjects are the easiest, as there are also many to which the pleasure of acquiring knowledge more than counterbalances the irksomeness of the accompanying toil. The labor of climbing the ladders of an underground shaft in a mine is no greater, and often not even so great, as that which the tourist undergoes in ascending an Alpine peak; but in the first case it is intolerable because it is performed in the dark, while in the other it is forgotten or unperceived in the glory of the constantly widening outlook. Where the choice, therefore, is entirely free, the subjects which demand the most strenuous intellectual efforts will always attract the most numerous devotees, because the enjoyment they offer will always more than compensate the labor they entail. If there are any of whom it may be justly said that they are governed in their choice of studies by no higher motive than to reduce to a minimum the amount of mental effort necessary to make their

way through college without disgrace, the number is certainly very small, and it is made up chiefly of those who would accomplish very little of value under any system.

A very convincing evidence of the practical benefit which the introduction of the elective system has brought with it in our College may be found in a comparison of the average scholarship of the members of the same class during the years in which they are subjected to a fixed curriculum of study and during those in which their studies are dependent on their own choice. Attention was called to this test in the last annual report of the undersigned, in which comparison was made of the records of two classes, viz., those of 1881 and of 1882, for consecutive years, these being the first classes to come under the influence of the elective system. The following summary will more fully illustrate the point under consideration. As at present the first two years are subject to a fixed curriculum, and in the remaining two the choice of studies is freely open to the student, there are here given, for several successive classes previous to the introduction of the system of election, and for those which have completed their course under that system, the average standing of each during their Junior and Senior years, and also that for their Freshman and Sophomore years, beginning with the class which entered in 1871 and graduated in 1875, and ending with the class which is about to graduate in June, 1883.

COMPARATIVE STANDING OF SUCCESSIVE CLASSES DURING THE FIRST TWO AND THE LAST TWO YEARS OF THEIR COURSE

Class	First Half	Second Half	Advance
1875.....	76.50	76.58	0.08
1876.....	71.79	74.45	2.66
1877.....	72.11	72.79	0.68
1878.....	75.04	81.98	6.94
1879.....	78.89	81.47	2.58
1880.....	79.32	83.01	3.69
1881.....	75.17	82.26	7.09
1882.....	73.38	82.38	9.00
1883.....	74.97	81.42	6.45

The first six of these classes were under a fixed curriculum throughout all the years of the College course; the Class of 1881 was for three years under the fixed curriculum, and for the fourth under the elective system. The remaining two classes were for two years only under the fixed curriculum. With the single exception of the Class of 1878, the improvement of grade during the last two years of the course was very slight for all the first six classes. For the Class of 1881, the improvement was very marked, and for that of the next following was more marked still. For the class of the present year, it is a little less, but it is nevertheless greatly in excess of that of any year preceding 1881, excepting only 1878, which presents one of those anomalies which are always to be looked for in results dependent on many contingencies. The average rate of advance for the first six classes here represented is only 2.75 percent, while for the last three it is a little over 7.5 percent. We have here, therefore, a practical test of the wisdom of the changes introduced into our scheme of instruction by the resolutions of 1880 in regard to this subject, which appears to be quite conclusive.

But while the adoption of the elective system of study is thus justified by its practical results as well as by sound principles of educational philosophy, the opinion has been growing among the professors during the past year that the advantages of the system would be best secured by offering an election between complete courses of systematized study rather than between studies taken singly. For while the student, left to a perfectly uncontrolled choice in the selection of particular studies, may be relied upon to select those in which, from his natural aptitudes, he is most likely to be successful, it will not always necessarily happen that the several studies thus chosen, taken together, will form a combination most likely to be profitable as a whole. It was on this account, among others, that the undersigned, in his last annual report, ventured to suggest that some control should be exercised over the freedom of election,

by requiring the student to submit his list of studies to the approval of those officers who have had charge of his instruction during the previous portions of his course, or should be required to consult those officers before making his choice. It is to be said to the credit of our undergraduates that in many instances they have spontaneously pursued this course; and moreover, that in others the officers have interposed their unsolicited advice on the subject, which has been respectfully received and followed. But better than a plan of this kind, even were it generally followed, would seem to be the construction by the Faculty of parallel courses of study covering the entire period to which the privilege of election is now extended, the studies in each such course being selected in view of their natural affiliations and interdependence, and with due regard to the logical order of their sequence, so far as to maintain unimpaired the disciplinary feature to the end of the course. By common consent, the Faculty, without having placed on their minutes any resolution on the subject, are now engaged in the preparation of a scheme intended to embrace two or perhaps three such parallel courses, corresponding to and naturally introductory to those leading to the several degrees afforded to students of the department of graduate instruction.

This scheme will be laid before the Trustees for their consideration at an early day. If approved, it could hardly be carried into effect before October, 1884; but in order that the students may have time to make their selections for the next academic year deliberately, and may have the opportunity in doing so to advise with their parents and friends, blank forms have been prepared showing all the studies elective for each class, and the amount of the time given to each, which will be placed in their hands before Commencement, to be filled out during the vacation and returned during the last week in September.*

* Report for 1882-83, pp. 15-26.

FREE TUITION

JUNE 2, 1879

THERE is hardly a collegiate institution in the United States in which provision is not made, in one form or another, for the education of some portion of its students free of charge. In some, this provision is made by benevolent associations, usually religious; in others, it is granted by the governing board themselves to persons possessing certain prescribed qualifications, or designated by certain societies or other corporate bodies to whom the privilege of nomination has been granted; but the form which it has most usually taken is that of foundation scholarships created by the benefactions of the liberal and philanthropic. The creation of foundations in modern times is a perpetuation, or rather an imitation, of a practice largely and almost universally prevalent in the mediaeval period in Europe. All the colleges of Oxford and Cambridge were founded as eleemosynary establishments; provision was made in every one for the support of a certain number of poor students. To the original provision, new foundations were from time to time added, distinguished usually by the names of the founders. The number of these in each of the universities amounts at this time to five or six hundred. Some of them are of no great value, yielding not more than £10 or £12 per annum; but the greater part range between £20 and £100—that is to say, between \$100 and \$500; and some are as large as £120, and even £135. In this country, scholarships are less numerous, and in general less valuable. Harvard University is one of the few American institutions in which the number is really large. In the undergraduate department, the number is there no less than 112. Each of these scholarships entitles the holder to an annual stipend varying from \$40 to \$350; but he does not receive tuition free. As the design of the founders, in every instance, was to aid the deserving whose means are insufficient to enable them to secure an

education unassisted, so one of the conditions of their bestowal is that the beneficiary shall have need of the assistance they afford. And the same is generally true, or at least was so in the original design, whatever may be the present fact, of the scholarships, one and all, established at Oxford and Cambridge.

Harvard University has been recently taken somewhat severely to task by a rather distinguished authority in matters of social and educational interest, for the reason that she does not make of her scholarships what it is assumed they might be made — a means of stimulating the ambition of excellence, by offering them as rewards for superiority of attainment. In this view of the case, it is assumed that they should be bestowed without any reference to the circumstances in life of the competitors, and therefore with entire impartiality upon those who have no need of them and those whose need is so great that they cannot do without them.

But it may well be doubted whether the increased zeal in the pursuit of knowledge which is excited by appealing to a mercenary motive is not more than counterbalanced by the prejudice to the moral tone which is its necessary concomitant; while it is quite certain that the honorable distinctions which it is possible to hold out as incentives to a noble ambition are sufficiently numerous to render such appeals unnecessary.

However that may be, it does not appear that Harvard University has any choice in the case but to apply the funds intrusted to her in compliance with the conditions of the trust; and it is only in the instances in which it may happen that the competitors are more numerous than the prizes that she can have an opportunity to discriminate in favor of those whose past record is most creditable.

Besides the scholarships for undergraduates above mentioned, Harvard University has nine in her Divinity School, eight in her Law School, four in her Medical School, and four in her Scientific School, the values varying from \$150 to \$260 per annum.

From the income of bequests and donations from time to time made to her for benevolent purposes, she also distributes about \$750 annually in aid of deserving students of limited means; and in addition to this she grants assistance, in the form of loans, to the meritorious, to the amount of \$2,400 annually. Similar assistance is furnished to students in the Theological School to the extent of about \$3,000 each year.

In several of our colleges, the number of endowed scholarships is quite large. In Amherst College, there are between forty and fifty, of value varying from \$35 to \$120 per annum, and about forty-five more of \$90 each, designed only for students preparing for the ministry.

Brown University has fifty-seven scholarships of the annual value of \$60 each; and thirty-four in her agricultural department, of the value of \$100 each. These are designed for students of limited means; but in addition to these she has seven, varying in value from \$60 to \$300 per annum, to be awarded on competitive examination.

Colby University, Maine, has sixty-six scholarships, yielding annually from \$36 to \$60 each.

Williams College, Massachusetts, distributes \$5,000 for the benefit of students who have need of assistance, the amount granted in each case being dependent upon the circumstances of the individual. This is equivalent to fifty scholarships at \$100 each per annum. She has also six foundation scholarships of the annual value of \$150 each.

Trinity College, Connecticut, has forty scholarships which secure to the holders tuition and presumably room-rent free; and also nine yielding from \$100 to \$300 each, yearly.

Bowdoin College, Maine, has twenty-seven scholarships of the value of \$60 each, and one of the value of \$300.

Tufts College, Massachusetts, has twenty-eight of various values, between \$60 and \$100.

At St. John's College, Maryland, two students from each

senate district in the state are provided for by the state legislature.

These examples, to which many more might be added, are cited here to show how generally provision has been made in the educational institutions of our country for that class of students whose education depends upon the assistance thus received. They have an interest to us at this time, in consequence of the recent revival of the question before the Trustees, whether the policy of making such provision to meet such wants is not, after all, a mistake.

Columbia College has, from a very early period, granted free tuition under certain circumstances; and during the last ten or fifteen years the number constantly on her free list has been as great as fifty or sixty in the academic department; and in all her schools more than twice as great.

The earliest provision of this description on our records, so far as the minutes have been examined, was made in 1812, when it was ordered that the sons of the professors in the College may be educated free of charge.

By a resolution adopted early in 1827, it was provided that any school in New York may send one scholar annually to be educated free of charge in the College, provided that the same school shall at the same time send four who pay their fees, and provided, also, that such school shall conform to a plan of instruction prescribed by the Faculty of the College, and shall submit to visitation and examination by a committee of the College Board. The design of this provision was evidently to secure the influence of the teachers of the city in inducing their scholars to attend our College rather than to resort to institutions at a distance. It was a very judicious measure, particularly that part of it which provided for the visitation and examination of the schools of the city by committees of the Faculty. No plan can be devised better adapted to secure thorough preparation of candidates for admission to college than that which makes the methods of the schools, and the progress of their pupils, constantly sub-

ject to the supervision of college officers; and it follows, of course, that no plan can be made more effectual in improving the character of the schools themselves. It was for these reasons that, in the last annual report of the undersigned, this plan of school examinations by committees of the Faculty was recommended as advisable at the present time, for the sake of making the influence of the College felt throughout the educational field below it.

It appears, however, that, at the early date above referred to, the provision in regard to school examinations was too burdensome to be permanently maintained. Such, at any rate, must be the inference from the fact that it was rescinded after being in operation for somewhat less than a year; although the privilege of sending a free student for every four paying students sent in the same year from the same school was still continued. The system of examining schools by committees of the Faculty is, in fact, hardly practicable with convenience, where the number of college officers is not large enough to allow of the temporary absence of one or two, without embarrassing the operations of the College itself. It was on this account that, in recommending the institution, or rather the revival, of this system here, as was done in the report just mentioned, it was observed that the measure could hardly become practicable until the number of our instructors should be considerably increased.

In the month of January, 1830, a statute was enacted creating fourteen free scholarships to be bestowed on nomination by the corporation of the city of New York, the trustees of the City High School, the trustees of the New York Public School Society, the directors of the Clinton Hall Association, the trustees of the Mercantile Library Association, the trustees of the Mechanic and Scientific Institution, and the General Society of Mechanics and Tradesmen—two to be named by each of these bodies. The same statute provided that every religious denomination in the city of New York, by its authorized representatives, shall be entitled to have always one free student

in the College, designed for the ministry in such denomination. By later statutes or resolutions, the corporation of Brooklyn was authorized to nominate two students to be educated free of charge, the corporation of Jersey City one, and the Society of the Alumni of the College four.

Four months after the date of the statute first above cited, a resolution was passed establishing four free scholarships to be awarded to scholars entering college from the Grammar School, which then existed as a kind of preparatory department. It was required that the nominees should be scholars of good promise, but it was also a condition that they should be of the class who are unable to bear the expense of their own education.

It was at the same time ordered that the President of the College give public notice of the provisions made by the Trustees for gratuitous education in the College, and state particularly the number of students who may be gratuitously educated.

In the year 1831, permission was given to Professor Anthon, styled in the resolution "late Rector of the Grammar School," to nominate, to be educated free of charge, three students from the school entering the Freshman class. These nominations appear to have been additional to the number admissible under the general resolution of 1830.

In 1843, the Society for the Promotion of Religion and Learning were authorized by resolution to nominate two students to the College annually, to be educated free of charge. This was in reciprocation of a grant by the same society to the College of the right to nominate one student annually to be educated in the General Theological Seminary free of charge, and to receive in addition an annual stipend of \$200.

In 1853, a resolution was adopted to receive one free student annually, upon a plan said to have been recommended by the Secretary of State, but dependent for its accomplishment upon the action of the legislature, which action appears not to have taken place.

By the provisions above enumerated, there were established

thirty-three free scholarships liable to be constantly filled, while the privileges granted to the schools, the religious societies of the city, and the families of the professors made an extension of the free list possible to the number of forty or fifty. Subsequent changes in regard to the right of nomination reduced the number of scholarships to twenty-nine, and the discontinuance of the Grammar School in 1864 reduced it still further to twenty-five. Finally, by an amendment to the statutes adopted in April of the last year, thirteen of these twenty-five were abolished, so that the number stands at present at twelve only.

Besides the scholarships created by the Trustees themselves for the benefit of students needing assistance, seven have been established by private beneficence, viz., the two Moffatt scholarships founded in 1863, and the five Schermerhorn scholarships founded in 1877. The total number of scholarships open to students of this class is therefore now nineteen.

Other scholarships exist which are bestowed as honorable distinctions upon students already in College who excel in different departments of study. Twelve such scholarships were established by resolution of the Trustees adopted in 1871, and the number was increased to fourteen in the following year. It appears from the minutes that a much larger scheme of prize scholarships than this was proposed, as early as 1857, by a committee to whom the subject has been referred for inquiry; according to which forty-eight scholarships were to have been established, of values varying from \$50 to \$200 each. This proposition, however, was never acted on.

Until the year 1865, no general provision for the education free of charge of young men of limited means had been made; but in April of that year a resolution was adopted, providing that any student of good moral character and industrious habits, who should make it appear to the satisfaction of the President and Treasurer that he is unable to pay his fees for tuition, should be allowed to proceed without charge. In October of the same year, this provision was extended, by resolution of the Trustees,

to the School of Mines. The adoption of these resolutions produced no noticeable immediate effect upon the number of free students under instruction in either department, the number availing themselves of its benefits, during the first year after its adoption, having been only three in the College and six in the School of Mines; but in the progress of the fourteen years that have succeeded, the number has been steadily increasing, till, during the present year, it has been as great as forty-five in the College, and seventy-one in the School.

Taking the fourteen years through, the average number who under these provisions have been constantly receiving instruction free, has been eighteen in the College, and thirty-eight in the School of Mines, representing an amount per annum of \$1,800 in the College, and \$7,600 in the School of Mines, or \$9,400 in all, of tuition fees relinquished; against \$300 in the College, and \$1,200 in the School of Mines, or \$1,500 in all, during the first year.

During the last year, on the other hand, these sums were \$4,500 in the College, and \$15,400 in the School of Mines, making a total of \$19,900. The average of the first four years was, for the College \$425, and for the School of Mines \$2,600, or about \$3,000 for both; for the last four, it has been \$3,500 for the College, and \$13,900 for the School of Mines, or in all \$17,400.

It is a little remarkable that, while the number of applicants for free tuition under the general resolutions of 1865 has been steadily increasing, until at the present time it embraces about one-fifth of the total attendance in the College, and about one-third the same total in the School of Mines, the free scholarships previously established by the Trustees, or created by private benefaction, have since that date never been entirely filled up, and have at times almost ceased to be in demand. Of these scholarships there are, as stated above, nineteen, and till the close of the last year there were thirty-two.

During the year next following the adoption of the general

resolutions of 1865, twenty-two of the number existing, which were then twenty-five in all, were filled; during the last year, eleven only out of thirty-two; and during the present, six out of nineteen. Besides these, however, there are fourteen free students who are free as the nominees of religious denominations, or by school privilege, or under the resolution of 1812, exempting the sons of professors, making twenty in all, which number, added to the forty-five under the general resolution, give a total of sixty-five. Only three of these are on endowed foundations, the remaining seventeen being beneficiaries of the College; so that to obtain a correct statement of the total amount of tuition fees relinquished during the past year there must be added \$1,700 to the sum of \$19,900 given above, making a final total of \$21,600.

Of the eleven free scholarships which, at the close of the last year, were filled, nine belonged to the class of twenty-five established by the Trustees, and two were endowment scholarships. Sixteen of the Trustees' scholarships were therefore vacant, and five of the endowed scholarships, making in all twenty-one; while, as appears by the records, there were thirty-nine students who received gratuitous instruction during the year under the resolutions of 1865. These twenty-one vacant scholarships, had they been sought, would have provided for one-half of this number, a fact serving to show that the simplicity of the procedure of applying directly to the President and Treasurer for free tuition renders to a certain extent nugatory the provisions previously made to secure the same object.

In this respect, therefore, it is evident that the new system introduced by these resolutions has operated unfavorably, and has practically destroyed the usefulness of the regular scholarships.

During the past year, the number of free scholarships has been only nineteen; but the number actually filled has been only six, leaving thirteen vacant, a result which leads to the same conclusion.

A consequence like this, of course, could hardly have occurred had the value of the scholarship been in excess of the tuition fee; but such is not the case with any of those heretofore created in our College.

In another respect, the system has resulted unfavorably. Its avowed design was to lend assistance to deserving young men who without it would be unable to secure the benefit of a liberal education; and for a time it is believed that few sought to avail themselves of its advantages except under the pressure of real necessity. There was even, in many instances, an appearance of delicacy and reluctance on the part of these in making their applications; and the evidence of the existence of this feeling seemed to afford a guaranty that the liberality of the Trustees would not be abused; but since the number of the beneficiaries of this class has considerably increased, this sentiment has apparently died out, and there has been manifested a disposition to claim exemption from payment when the necessity was not of great urgency.

With a design to check, if possible, this tendency, there were prescribed, at the close of the last academic year, more stringent rules than had been previously in force in regard to the evidences to be presented of inability to pay. What the effect of these may be when they shall have been further tested by time remains to be seen. For the single year that has since elapsed, the results are inconclusive. The number of free students of the class under consideration, in the College, has increased instead of having diminished, having risen from thirty-nine to forty-five; and in the School of Mines, the number of the same class has fallen from eighty-two to seventy-one.

From a review of the whole history, it appears to the undersigned that the wisest course to be adopted in reference to this question is to rescind the resolutions of 1865, and, in lieu of their provisions, to establish a determinate number of free scholarships in the College and in the School, to be awarded to such as need assistance, and as satisfy certain tests in regard to proficiency;

and, in case the number of applicants should be at any time in excess of the number of places to be filled, to be given to those whose performance in a competitive examination is most satisfactory.

In discussions which have taken place in committees of this Board, and before the Board itself, the opinion has been expressed by some that it is not a judicious policy to lend pecuniary aid at all to young men in narrow circumstances for the sake of enabling them to make their way through college. It is held that by such means youths are unfitted for the station to which they are born, without being always, and perhaps without being often, made capable of sustaining themselves upon the superior level to which their education lifts them. Such a result, however, instead of being invariable or frequent, is believed to be of comparatively rare occurrence, while the rule is entirely the reverse. If the question were one to be decided by the weight of authority or by the majority of voices, the verdict would be overwhelmingly in favor of these benevolent provisions; for there is scarcely an educational institution of high grade in our own country or abroad in which they do not, in one form or another, exist; and every day sees the number of them increased. Experience also with us has vindicated their wisdom. While this subject was under investigation twelve months ago, by the Committee on the Course and Statutes, an exhaustive inquiry was entered into in regard to the scholarship as students, and to the history after graduation, of all those young men who, during the preceding fourteen years, had been the recipients of benevolent aid in obtaining their education. The total number of these graduates in the College was eighty-one, and in the School of Mines fifty-eight. In the summation of standing at the close of the college course, the average grade of all these eighty-one was considerably above the average grade of their classmates. One-third of the number stood very near the head, three of them actually at the head, four of them second in rank, and five of them third, in their respective classes. Of those who had been sufficiently

long graduated to have become engaged in permanent avocations, not one was known to have been unsuccessful, while a large proportion had already made a very creditable record, chiefly as professional men or teachers.

Of the beneficiary graduates of the School of Mines, the report was equally favorable. There were fifty-eight of these, as above stated, of whom fifteen, or one-fourth, were in positions of responsibility, generally in connection with mining or metallurgic establishments, four were professors in colleges, seven were instructors in our own and in other colleges, and one was a fellow in the Johns Hopkins University, a position secured by merit. Of the graduates of the School who paid for their tuition, only about the same number were known to have been equally successful, though the total, eighty-seven, was considerably greater.

It is evident, therefore, that the liberality of the Trustees in this matter in the past has not been misplaced; and it is believed that, by imposing such a limitation on it in the future as to prevent its being diverted from its intent, it will continue to be productive of results no less satisfactory.

In speaking of free students as beneficiaries, in contradistinction to those who pay a fee, the fact appears to be commonly overlooked that no student pays more than a small fraction of the cost of his education, and that the distinction between these two classes is only one of degree. There is no college of any character in the country in which every student is not more or less a beneficiary. The difference between the fee and the cost is a burden borne by the institution, and is very different in different colleges, being dependent on the magnitude of the permanent and unproductive investments in grounds, buildings, libraries, apparatus, collections, etc., and on the number and rates of compensation of the instructors, and other persons necessarily employed in the service of the institution. What it amounts to with us may be easily ascertained by reference to the Treasurer's report of October last, together with his financial statement

made to the Regents of the University, in the report of the Trustees to that body in December.

The report of the Treasurer furnishes separately the expenditure of the year preceding on account of each of the three schools under the control of the Trustees, viz., the School of Arts, the School of Mines, and the School of Law; and gives also separately the amount expended for the purposes of general administration. These several sums are as follows:

EXPENDITURE FOR EACH OF THE THREE SCHOOLS UNDER
THE CONTROL OF THE TRUSTEES AND FOR THE
GENERAL ADMINISTRATION, FOR THE YEAR
ENDED SEPTEMBER 30, 1878

School of Arts	\$93,699
School of Mines.....	97,578
School of Law	39,100
General administration.....	22,616

We are only concerned at present with the two schools first named. And, as to these, a light modification of the Treasurer's figures is necessary, arising out of the fact that there are five professors who teach in both schools, the salaries of three of whom are charged to the College, and of two only to the School of Mines. Making correction for this, and adding to the total for each school one third part of the cost of general administration, we find to be chargeable to the College for the year ending October, 1878, the sum of \$97,520, and to the School of Mines \$108,900. These amounts are still further to be increased by adding to each one half the interest — say at 6 percent — on the total investment in real estate and other property employed for the uses of the schools, which, being valued in round numbers at \$850,000, gives \$51,000 per annum to be divided between the two. Thus, finally, the expense of carrying on the College for the year ending October 1, 1878, was \$123,000; and the corresponding expense for the School of Mines was \$134,400.

The total number of students matriculated during the year embraced in the Treasurer's report was, in the College, 233, and, in the School of Mines, 255. Twelve left the College, and 26

the School of Mines, during the year. If from the total number of the matriculates we deduct half the number of the losses in each case, we shall have as nearly as possible the mean number of students for the entire year, which will be 227 for the College, and 242 for the School of Mines. Of these, 61 in the College were free, and 82 in the School of Mines. These must be deducted, because it is represented on their behalf, at their admission, that but for their exemption from fees they would not be present at all; and the expenses of the institution must go on all the same, whether they are present or absent. This reduces the number, the cost of whose education we are to compute, to 166 for the College, and 160 for the School of Mines; and the result is that the cost of educating every such student is \$740 in the first of these schools, and \$840 in the second. As tuition in the College is \$100 per annum, and in the School \$200, it follows that, practically, every student in either school is a beneficiary to the amount of \$640 per annum.

Even if we divide the expense among the entire number of students, including equally the free and the paying, we shall find that, for each, the cost in the College is no less than \$540, and in the School than \$555, which leaves the College student still a beneficiary to the extent of \$440 per annum, and the student in the School to the extent of \$355.

Another view of this matter may be taken, which very strikingly illustrates the point under consideration. The total amount received into the treasury in payment of tuition fees and of all other dues from the College and the School of Mines falls short, for the year in question, of \$50,000; that is to say, it is hardly equal to the interest at 6 percent on the value of the buildings, grounds, and other property employed for educational uses. It follows that no part of the cost of maintaining the institution is defrayed by those who receive its benefits; but that instruction is a gratuity in every case equally.

It is certainly worth considering whether the tuition fee in the College ought not to be increased. Of course, no such in-

crease is necessary or practicable as to make the fee equal to the cost of instruction. In no well-endowed educational institution of superior grade in this country is it ever so great as this. The object of endowment is to create the possibility of offering to the public liberal education below cost. But, even to the best-endowed institutions, the income from tuition fees is not without its importance. On the magnitude of this income will, to a great extent, depend the number and ability of the teachers whom the institution will be able to employ, the scope of its teaching, and the completeness of the appliances which it is able to combine for the purpose of making instruction thorough.

There seems to be no good reason except prescription why the tuition fee in our College should be less than in our School of Mines. Experience has shown that the amount of the fee in the last-named School is not such as to repel applicants. The attendance on the College would not be sensibly diminished by exacting the same fee there also.

It is a little remarkable that the amount of the tuition fee in the School of Mines was not originally established by the Trustees themselves. During the first year after its opening, the School, though under the supervision of this body, was not maintained by them. The instructors received no compensation except that which the fees afforded, and the charges on this account appear to have been fixed by them. Toward the close of this first year, the Trustees assumed the responsibility of sustaining the School for the twelve months next ensuing, assigned salaries to the officers, and required the fees to be paid into the treasury. As to the amount to be so paid, no order was taken until the close of this experimental year, when a resolution was passed which, confirming the usage already in existence, fixed the fee at its present amount. There is some reason to believe that, had the Trustees undertaken the full control of the School from the beginning, they would have fixed the charge for tuition at the same rate at which they had already fixed it for the College and the School of Law.

The net income from tuition fees in the College during the current year will amount to a little over \$18,000. During the next, it will exceed \$20,000. There would be nothing unreasonable in so increasing the fee as to double this amount. Such a change, if made, however, should be announced a year or more in advance. It appears to the undersigned that it ought to be made at the beginning of the financial year commencing October, 1880.*

* Report for 1878-79, pp. 23-41.

VI

SIZE OF CLASSES

MAY 7, 1883

THE necessity just pointed out of breaking up the large classes which form for the study of the modern languages into sections suggests the remark that similar subdivision is no less important in other departments. In our lower classes, such subdivision is already carried to a considerable extent, the sections numbering from twenty to twenty-five students each, but these, with an hour only given to each exercise, are quite too large. For any purpose of profitable examination, it is hardly possible to call upon more than ten or twelve individuals to perform during the hour, so that, even with the moderate numbers of our present sections, one-half, or more, escape being held to account on every occasion. The sense of responsibility of the student is thus proportionally diminished, and an important stimulus to diligence is lost.

The Professor of Mathematics, in his report on the work of his department during the current year, has pointed out another disadvantage resulting from the mode of class subdivision at present practiced, which is to arrange the names of the members of the class to be divided in an alphabetical list, and to divide this list into as many equal parts as there are sections required. This plan takes no account of the different degrees of natural ability or of acquired attainment on the part of individuals, and makes it probable that the widest extremes of difference in these respects may be found in every section. But inasmuch as, from the necessity of the case, the progress of the whole must be uniform, it follows that either the brighter or more diligent are impeded in their advance by their less capable companions, or that the more sluggish intellects are urged on at a pace more rapid than they can bear, or that both these evils may occur at the same time. The remedy for this is to classify according to

scholastic merit, a result which can be accomplished only through a sifting process, by which gradually the better portions of the class are brought together in the first section, and the others are arranged according to proficiency in the sections below. This sifting process, however, goes on very slowly, unless the sections are small. In order to avoid injustice by too speedily promoting or degrading an individual student, the test of his capacity or of his diligence should be constantly applied; in other words, a comparison of the performances of all the members of every section should be possible at every meeting with their instructor—a possibility which cannot exist where the sections embrace more than ten or twelve students each. In a class of ninety or one hundred students, which represents the probable number of our Freshman classes in the future, there should be eight or ten sections instead of four only, as at present. To this extent subdivision has always been carried in the government Military Academy at West Point, and to this feature of its system that institution owes very much of the high reputation which it justly enjoys for the thoroughness of its educational methods.

But with the multiplication of sections comes the necessity for a larger number of teachers, and teachers cannot be multiplied at present rates of compensation without a large increase of annual outlay. A plan, however, has suggested itself by which this difficulty may be obviated. Young men who desire to become, after graduation, members of the Graduate Department, are often deterred from doing so by the consideration of expense. The best students would in many cases be glad to pursue higher studies for several years, if they could be secure of means of support during that time. Moreover, it has repeatedly happened that the existing fellowships have been declined by those whom the Faculty had proposed to nominate, on account of the condition which prohibits the incumbent from pursuing professional studies during the period to which the fellowship extends. There are, on this account, two prize fellowships at

this time vacant, the Fellowships in Science of 1881 and 1882, for which no takers were found. The undersigned is entirely satisfied that if there should be created a certain number of fellowships, with the title, perhaps, of Tutorial Fellowships, each with the same stipend which is now paid to the prize fellowships, and with the duty annexed of giving instruction such as is now given by tutors, quite a sufficient supply of teaching force could be very soon secured to make it practicable to carry the subdivision of classes as far as could be desired; and that if, as the present tutorships fall vacant, the above described fellowships were to take their place, this important object could be accomplished without any increase of expense at all. These subordinate officers, being subject in the discharge of their duties to the immediate personal supervision of the professors in their several departments, would soon become efficient, and it would further become practicable to adapt instruction to the peculiar idiosyncrasy of each member of a class, to a degree which is now impossible.

When a single instructor has to deal with sections of from twenty-five to forty each—and cases have occurred in which bodies of students reciting together have been numerically larger even than these—it is an unavoidable necessity that the whole must be treated as if it were a homogeneous mass, and that the methods of exposition, illustration, or interrogation must be uniform for all, and must be adapted to what may be supposed to be the average intelligence. This is no doubt a misfortune, but it is one which, in the case supposed, is unavoidable. There have not been wanting educational critics, who, pronouncing on the methods and results of collegiate education, not in the light of any practical experience of their own, but in that of the presumed superior clearness of their personal intuitions, have denounced this misfortune as a fault. Our instructors, they say, present the subject of their teaching in one invariable form to all minds alike, and totally neglect to study the mental characteristics of individual students or to adapt their

men, such personal study is simply an impossibility. It may be doubted, indeed, whether such an educational system as these over-wise critics demand could be effectually carried out without providing that every student shall have a teacher devoted exclusively to himself. And it may further be doubted whether the interference of the teacher with the operations of the student's mind, in the process of education, may not be carried too far. Something must be left for the youth's independent effort; and an unaided and successful struggle with a single difficulty will be followed by far more salutary results in the formation of intellectual character than are likely to accrue from a dozen similar triumphs with a teacher constantly at hand to direct each effort or to share its burden. It is certain that there is a just medium to be observed between leaving the learner wholly to his own resources and overwhelming him with excess of personal attention. On either side danger lies, but it may be doubted whether the danger from the first error is greater than that from the second. There are certainly minds which, left to fight out their own battles for themselves, will attain to a sturdy virility, which, nevertheless, if too tenderly guarded against difficulties or aided in surmounting them, will become degenerate and weak; while others may thrive under a treatment by which the more rugged would be emasculated, and by a contrary process attain to strength. The misfortune of our present condition is that we are unable to provide adequately for this last described class of minds, a class which probably is numerically the greater. By the adoption of the plan of replacing tutors by Tutorial Fellows, this disadvantage may be overcome, and it is greatly to be hoped that we may see this desirable object accomplished before the lapse of many years. Such Tutorial Fellows should, of course, be exempted from the conditions to which the incumbents of prize fellowships are subject, conditions which would probably prevent their acceptance by the more eligible candidates, and should be allowed to pursue their studies in the Graduate Department free of charge for tuition.*

* Report for 1882-83, pp. 27-32.

VII

PRIVILEGES OF PROFESSORS

JUNE 6, 1870

IT is provided in the statutes of the College that: "The members of the Board whose salaries are paid out of the general fund of the College shall not be engaged in any professional pursuits from which they derive emolument, and which are not connected with the College." This restriction upon freedom of action is not imposed upon any class of professors except those of the Academic Board. The professors in the School of Mines, and in the School of Law, are perfectly at liberty to seek employment, either continuous or intermittent, outside of the Schools to which they belong, and entirely apart from the College; and this privilege they freely use. It has not as yet appeared to the Trustees that the institution has suffered by the exercise of such a freedom on the part of its officers. On the other hand, it is believed that the professional schools have been very sensibly the gainers by the increased reputation which their professors have acquired, by coming in this manner into more direct and frequent contact with the world of business men, and by applying their talents to the prosecution of objects which the world around them understand.

The professors in the academical department have been unable to see how their employment, in other occupations, of such time as their duties to the College leave them, should be attended with any more disadvantage to the interests of the institution than experience has shown to result in the case of the officers of the professional schools. They perceive and admit that a professor in any department may, by possibility, abuse any freedom which may be given him, just as men sometimes abuse the civil liberty they enjoy under our republican government; but it seems to them that, against this possible evil, remedies may be devised which shall be less oppressive than the absolute prohibition of all freedom. It seems to them, moreover, that this argu-

ment proves too much, since it would logically demand that the officers of the professional schools should be placed under the same restraint. Finally, it is urged by them that the provision complained of in our statute is one which it is not usual to impose, in other colleges, upon officers of their own grade, and that its absence in such institutions has not, to their knowledge, been in any case productive of evil.

To these representations, the reply has been made that the professional schools are designed to train men to business, and therefore that it is advantageous, rather than otherwise, that their teachers should be known and seen to be practical men; whereas it is believed that the professors in a college of general culture ought to be encouraged, and even constrained, if possible, to devote the time which their academic duties leave at their disposal to the extension of the field of human knowledge, and not to the profitable application of knowledge already acquired. By allowing these professors to engage in "pursuits from which they derive emolument, not connected with the College," they will, it is urged, most infallibly be drawn from this desirable and legitimate field of labor, and will, besides, be in danger of losing the lively interest which they ought to feel in their immediate and proper duties as teachers. If other colleges do not impose the restriction complained of upon their teachers, this, it is asserted, is not because they would not do it, if they felt themselves strong enough; but because they are not able to pay salaries sufficient to entitle them to the exclusive control of the time and labor of those officers. This College, on the other hand, undertakes to provide, for the permanent professors in its academic department, a living support; it does not demand of them that they shall give to it their services, and, after that, support themselves, in whole or in part. It has a right to demand, therefore, that they shall not devote themselves to the pursuit of gain in any form; but that, if they have time remaining to them after their proper duties have been fully and conscientiously discharged, they shall devote that time, not to the improvement of

their personal fortunes, but, according to the ability they may severally possess, to the benefit of the human race.

Such, in brief, have been the opposing views held in regard to this subject. The argument last sketched in outline has hitherto been regarded as conclusive by the Trustees. It will be remembered that, in the month of February last, a proposition was introduced into the Board by the undersigned, in behalf of the academic professors and as their representative, for the removal of the statutory restriction upon the freedom of this class of officers; and that this proposition, after having been referred to a committee for inquiry and considered with much deliberation, was reported on unfavorably and rejected by the Board. It is not the design of the undersigned, in presenting this subject once more at this time, to raise anew a question which has been so deliberately and so decisively disposed of. He mentions it only to say that, for the purpose of removing the feeling of discontent, amounting almost to a sense of injustice, which seems to exist in regard to it on the part of the academic professors, it seems to him advisable that the matter should be once more referred to a committee, with instructions to make a full report, setting forth not only the determination of the Board, but their reasons for maintaining it; and, what is perhaps of equal or even greater importance, defining, with more exact precision than appears to have been done hitherto, what is the true meaning of the statute, what it allows, what it is designed to prevent, and what constitutes a violation of its letter or its spirit. Such an exposition of the policy and the law would, it is believed, be productive of good effects.

Since, moreover, it is to be regarded as settled that the restriction upon the freedom of the College professors shall not be removed, it may be worth considering whether the discrimination between them and the officers of the professional schools shall not be abandoned; since this discrimination seems to be felt as more injurious than the restriction itself. This removal would require, of course, an equalization of the compensation of all the

professors, and would involve an examination of the question, how far the resources of the College could bear the increased burden. But the result of the whole inquiry, it is confidently believed, would be to produce a much more satisfactory state of things in regard to this subject than at present exists, or than has existed for the past several years.*

* Report for 1869-70, pp. 71-74.

VIII

ATHLETICS

MAY 7, 1888

IN recent years, increasing attention has been continually directed to the importance of physical culture among young men in colleges. There is reason to believe that, if the importance of this subject has not been exaggerated, at least the methods employed for encouraging it have been more or less mistaken. If vigorous exercise should be practiced by a portion of the young men under instruction in college, the same ought to be the case with all; yet it is doubtful whether the great proportion of the students in any of our colleges participate in the exercises which are esteemed so important. They certainly do not do so in institutions which are unprovided with regularly equipped gymnasia; and, even where such advantages are possessed, there is rarely any constant and persevering practice. It is too often the case that at the beginning of a session young men are animated for a week or two by a very lively zeal to participate in athletic sports, which in a brief period wears itself out, after which the gymnasium is for the most part deserted. What is more likely to happen is the selection of a limited number of athletes who are supposed to possess more than usual skill and who are charged with representing the college in their match games with other institutions. They will thus designate, for example, the baseball team, or football team, or the boat crew, to whom will be committed exclusively the maintenance of the honor of the college in this particular field. Those not thus selected will relapse into the sluggishness of previous years, and thus the mass of the students will derive very little benefit from the efforts thus made for their physical improvement. This is undoubtedly very seriously to be regretted. It is to be regretted mainly because it is a disappointment of a very worthy and desirable object; but it is to be regretted also because it entails upon the students a serious burden of expense — an expense which,

under college usages, can hardly be avoided. Though a very limited number of young men actually participate in these sports, the burden falls more or less on all alike. The expeditions got up to visit sister colleges in these trials of agility or skill involve serious expenditures, and, as the representatives of the colleges are charged with the responsibility of maintaining the reputation of the entire body, they can hardly be expected to do so at their own charge. Another evil attends the practice, now become so common, of intercollegiate matches. Though but a limited number engage personally in these games, yet the interest taken in them by the mass of the students is general and absorbing. As these contests approach, there is more or less distraction of the minds of the students from their proper pursuits, and, for the time being, a more or less serious neglect of study. This is an evil inevitable while the present system is maintained, and is of sufficient magnitude to justify, in the opinion of the undersigned, an absolute prohibition of intercollegiate games altogether.

The evil was not one originally anticipated. In the encouragement given to athletic sports, it was hoped that the physical vigor of the students generally might be promoted, and so that the great desideratum of "a sound mind in a sound body" might be secured to all. The perversion of the system by which whatever benefit may be enjoyed accrues only to a small number, while the burden of expense comes equally on all, has practically destroyed the usefulness of the system, and given it another character, more an injury to the cause of education than a benefit. It is well worth consideration whether boating clubs or match games of any sort beyond the limits of the University itself ought not to be totally prohibited. Columbia College may be entitled to speak on this subject with some degree of authority, as she was one of the first of the colleges to offer encouragements to athletic sports by directly subsidizing them; but, in doing this, the Trustees had no other object but to promote physical exercise among the students within the institution itself. More than twenty years ago there began to be made annually a con-

siderable appropriation under the title "gymnastic exercises." The intention of this was principally to defray the cost of implements, and the occasional rent of grounds. The spirit of emulation, however, soon led the young men to a practice which, at the time, amounted to an abuse. The appropriation granted by the Trustees began to be applied to the purchase of prizes to be awarded to the most successful competitors. This was at first objected to, but in the end it was granted, and the practice may have had the effect to make participation in these sports more general. It continued in effect for a number of years, but in the springing up of intercollegiate matches the general practice of athletics sooner or later disappeared.

The absence of a regular gymnasium has, however, been a great discouragement to the general practice of athletic sports in this institution. Two years ago, there was an effort made on the part of alumni of the College to secure a fund for the erection of a well-appointed gymnasium in the vicinity of the College grounds. Plans and estimates were made for the necessary building and ground, and the probability seemed then that the object would soon be realized; but the scheme seems to have fallen through, or only seems likely to be accomplished when the Trustees shall be able, if that shall ever happen, to carry out the design at their own expense.

In the much discussion which has taken place on this subject in the public press during the past year, it has been imputed as an evil attendant upon intercollegiate matches that they have a tendency to give an advantage in regard to numerical attendance to those institutions which are most successful in these competitions. Opinions were sought by a leading journalist in Boston from the heads of a large number of colleges, as to the presumed effect of athletic successes in increasing the attendance upon institutions which had won honors with more than usual frequency in games of skill. No doubt there has been prevalent an opinion to this effect extensively in the community. The heads of colleges generally, however, concurred in the belief that this

effect had been materially imperceptible. The opinion was expressed that in a matter of so grave importance as a choice of a college, a consideration so insignificant as a loss of a boat race or ball match would have no material weight with a young man desirous to secure a good education, and still less with his father. It is still, however, undoubtedly true that a young man will reflect with pride on the fact that the college to which he belongs can boast an honorable athletic record, and though this consideration may not have often a prevailing influence, it is hardly to be doubted that it counts for something.*

* Report for 1887-88, pp. 17-21.

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IX

DISCIPLINE

JUNE 7, 1869

ATTENTION will first be confined to the observed effects of the new system of discipline. This system assumes that the student, in becoming a member of the college, has a serious object in view; and it credits him with a sincere desire to attain this object. It discards the notion that he is sent here to be kept out of mischief, or to be subjected to personal restraint, or to be watched in his conduct, or to be in any manner interfered with as to his freedom of self-control. It holds out to him, on the other hand, certain advantages which he is presumed to seek, and it offers to him these advantages on certain conditions which he is perfectly at liberty to comply with or to disregard at his pleasure; with no other consequence than that these advantages will in the latter event be forfeited.

It assumes, further, that the business of the teacher is to furnish such instruction as may subserve the ends of a sound intellectual and moral culture, and not to act as a master, overseer, or censor. It exacts toward him no other observances than such as are conceded among men to be due to the respectability of his office; and it imposes upon teacher and student alike the obligation of regulating their mutual intercourse upon those rules of courtesy which are held to be binding in polite society.

The student is thus treated as a man and not as a child, nor as a wholly unreflecting schoolboy. It is taken for granted that he has a judgment, and a conscience, and a power of self-control; while it is almost needless to remark that the prevailing system of college government defers little to the judgment, appeals still less to the conscience, and ignores altogether the possibility that the student may be trusted to govern himself.

Whoever questions the wisdom of this innovation must do so on the ground that the view here taken of the character of young men in college is not consistent with known facts. Such

an objector will possibly say that students are not men, and that any experiment of government which treats them as men must necessarily fail. He will take the ground that their judgments are not to be relied on, that their views of duty are obscure or false, and that their actions are liable to be determined by their propensities rather than by their convictions of right. An objector of this class will, therefore, necessarily hold that our experimental system is a departure in the wrong direction from the established system; but he cannot be logical without at the same time maintaining that the abandonment of the earlier system of direct supervision and personal restraint was a greater error still.

The fact is that there are two directly conflicting and totally irreconcilable views of this subject taken by different persons, and even occasionally by the same persons at different times. The first of these assumes that no reliance can be placed upon the coöperation of the student himself in securing the ends of good government, and promoting the common interests of all; the second treats him as a reasonable being, capable of reflection, and disposed, like other reasonable beings, to choose the course which will insure to him the largest immediate advantage and the highest satisfaction in the retrospect. Singularly enough, as colleges in general are at present constituted, both these views, however inconsistent with each other, may be plausibly defended by reference to existing facts. For the student body is in general by no means a homogeneous body. It embraces in truth a great many young men so immature, both mentally and morally, as to justify the doubts of those who question equally their capacity and their disposition to govern themselves. But it embraces many more, respecting whom no such doubt is possible; not seldom, even, men mature in years, who have already, in one capacity or another, discharged satisfactorily the functions of independent members of society; but much more frequently youths who, notwithstanding their immaturity of years, possess characters fully developed, and who are accustomed to regulate their actions with reference to fixed principles. As this

better class of students is certainly by far the most numerous in colleges, it serves as the type on which the popular opinion of college youth is founded. And to this cause must be ascribed the want of just appreciation of the difficulties of college government, which appears in many of the criticisms and strictures on the proceedings of college authorities, in which the periodical press occasionally indulges.

For the more juvenile portion of the student body, as at present constituted, it is quite possible that a severer system of restraints, and a closer system of supervision than colleges afford, would be more beneficial; but this is only to say that this portion is out of place in an institution organized as an American college is organized, and that it ought to be withdrawn, and placed where it can be subjected to a more suitable regimen. It is nevertheless for this portion entirely that the elaborate system of college statute law is provided; and the offenders for whom the penalties of this code are intended, but whom they so seldom reach, are found almost invariably in the number of those who have no fitness for a government of law, and who ought to be subjected to a more direct and positive restraint.

If an attempt is made to ascertain the relative number of the two classes of students here distinguished, by reference to the evidences furnished in the internal history of colleges, it will be found that the class of the childish, the morally weak, and the therefore irresponsible, is but an insignificant minority; while its presence is the source of nearly all the troubles with which colleges are vexed. No member of the government of any college, in glancing over the catalogue of its students, would hesitate to pronounce three-fourths, perhaps nine-tenths, of the number, to be incapable of committing any willful violation of reasonable rule, or of instigating any scheme for annoying his instructors. And if among such offenders there are occasionally found some of whom better things might be expected, this result may be with some reason attributed to the existence on paper of a system of government which announces to the student in advance that the

authorities have no confidence in his good dispositions, but intend to coerce him into proper behavior.

It will be understood from what has been said that the *immediate* consequences of substituting, in a college like ours, for the existing form of government, a new one recognizing the right of the student to regulate his own conduct, subject only to such ordinary rules of order as are necessary to prevent confusion and to facilitate the business of instruction, can hardly furnish conclusive evidence of the extent to which the change has been beneficial or otherwise. If there is present in the college body, as it has been seen that there may be, an element out of harmony with the new system, the effect upon this portion cannot be expected to be favorable. And if this element, notwithstanding that the greater freedom allowed to it tends naturally to encourage its irregular action, should appear nevertheless to be somehow held in check, the consequence will be so much the more gratifying, as the restraining influence can, under such circumstances, proceed only from the better part of the student body themselves.

This supposable case is believed to have been, to a certain extent, realized in the experience of our College. By the great majority of the students the change was welcomed, and was met by their spontaneous pledge to maintain good order, and to show themselves worthy of exercising the privilege of self-government. Some few avowed that it brought them no gratification, possibly because it is in human nature to love a grievance against which to exclaim or recalcitrate, provided it be not too severe; and such an one has long existed to the student mind in the restraints and penalties imposed by college statutes. But a very marked change for the better immediately made itself manifest in the general deportment of the body of the students, and this change has been permanent to the end of the session. Rushes and tumults in the passages, which before were frequent, may be said to have entirely ceased. The order of the classrooms has been rarely interrupted by any improprieties; and if such inter-

ruption has occurred in here and there an exceptional case, in no such instance has it appeared that the offender has received encouragement or countenance from his classmates.

Nevertheless, it was too much to expect that traditional modes of thinking and acting could at once be laid aside, or that the legitimate results of the new system of government could make themselves fully manifest, until by lapse of time the minds of the students generally should have become familiarized with the new situation. And as this new system is confessedly not suited for children, it is probable that, for the present at least, there will occur an occasional necessity to drop from the roll an individual who is found, upon fair trial, to be out of place in such a community. But the number of such cases cannot be large. Infancy cannot be assumed by young men who show their sense of what is fitting by deporting themselves in public lecture halls, in religious congregations, and in the social circle, with entire propriety. Such young men are equally capable of preserving the same propriety of demeanor while in attendance at college; and if they will not do so, it cannot be said that their presence in college is desirable, or that their influence upon their associates there is likely to be beneficial.

Upon the whole, therefore, it may be said that the results of the new system have been as favorable, as it respects discipline, as could reasonably have been expected; and that, should the Board see fit to extend the experiment, they are likely to be still more favorable hereafter. A spirit of manliness pervades the student body, which has not been before by any means so distinctly marked; and the effect of this can hardly fail to be conducive to the formation of a higher tone of character.*

JUNE 6, 1870

At the regular meeting of the Trustees in February, 1869, a committee was appointed to take into consideration the expediency of modifying the provisions of the existing statutes in

* Report for 1868-69, pp. 19-25.

regard to matters concerning attendance, discipline, and the proficiency of the students in scholarship. This committee was empowered to make such temporary regulations on these important subjects as should seem to them judicious, and in due time to report to the Board such modifications of the statutes already in existence as should appear to be recommended by the results of experience.

The motive of this action on the part of the Board is undoubtedly to be found in a belief that the system of government at present prevailing in American colleges is one which derived its form from a state of things in many respects materially different from that which exists in the collegiate institutions of the present day, and one which therefore embraces provisions in part unnecessary, and in part out of harmony with the changed circumstances of our time. These provisions implicitly assume that the college is responsible for the moral training of the student no less than for his intellectual culture, and suppose that as effectual an influence can be exercised over a young man in the formation of character by his academic instructors, as is possible to parental care and watchfulness. That this may be true in educational institutions in which constant and immediate supervision is maintained over all the conduct and actions of the student admits of no question. It was early true in the colleges of the mother country upon which our own were modeled. It was true in the older American colleges for some time after their formation. In order that it should be true, it was necessary that instructors and pupils should reside in the same building and form together one family. The functions of the teacher were not circumscribed to the narrow limit of the lecture room, nor did his duties cease when the few hours devoted to immediate instruction were over. They extended through the entire day, and through the night no less. In the College of William and Mary, as late as 1769, it was ordained by the visitors that if any professor should contract matrimony and should cease to reside in the college building, his chair should be *ipso facto* vacated.

This state of things still exists in the numerous educational institutions, many of them having the grade of colleges, which have been established in our country by the order of the Jesuits. In Protestant colleges, however, almost or quite without exception, the professor at the present day is understood to have discharged all his duty when he has met his classes at the appointed hours. Except for the preservation of order in his own presence, or in the case of serious misdemeanors brought to the notice of the entire board of the college, he is not expected to concern himself with the conduct of the students, and there is little that he could do to control it, if he were. Residence in the buildings is not required of him nor generally provided for him. He chooses his residence according to his convenience; and this, especially in large towns, is often too remote to permit his attendance except in the hours assigned to his own lectures. It follows that all those statutory provisions which carry with them the idea that the student is in a state of tutelage, or which throw upon the academic staff the responsibility for his moral training, are remnants of the legislation of another age, and have no applicability to the changed circumstances of our own time. To a sensible extent, indeed, it cannot be doubted that they are even the occasion of the irregularities of conduct which they were originally designed to suppress; since at present nothing is more difficult than to discover the authors of wanton disorders; though, so long as the system of constant supervision was practiced, nothing was more easy. A penal statute may therefore actually invite an offense, when the chances are a hundred to one that the penalty will never be inflicted.

In the case of Columbia College, the difference between the actual state of things and that which has existed in the earlier collegiate institutions is greater than in those of most of the colleges of the country, and there is therefore less need that we should here perpetuate their usages. Almost without exception the students of our College reside in their own homes, and are subject to the constant observation of their parents. As their

attendance at the College is limited to the hours devoted to scholastic exercises, little opportunity could under any circumstances be afforded their instructors to influence them by appeals to the conscience or the heart; but this disadvantage is abundantly compensated by their constant subjection to healthful home influences. Should the student therefore appear to be at any time deficient in diligence, or negligent in attendance, or liable to the formation of habits injurious to his character, the course most suitable for the correction of these irregularities would seem to be to communicate to the parent the evidences of these facts, and leave it to his judgment to apply the needed correction. By such a course of treatment, the necessity of academic censures will in general be avoided, and only in the case of persistent delinquency will it be necessary to adopt any more decisive measures.

Entertaining these opinions, the committee above referred to proceeded, soon after their appointment, to suspend temporarily those portions of the statutes of the College which relate to the attendance, discipline, and proficiency of the students, and to prescribe, instead of these, certain simple regulations designed to leave to the student the largest freedom of action consistent with the objects for which he is presumed to attend the institution. Instead of denouncing penalties for offenses enumerated, these rules required merely that he should do nothing unbecoming a gentleman and that he should regulate his deportment toward his instructors upon the same principles of courtesy which he feels bound to observe in his general intercourse with his fellow men in society. Upon these conditions only could he be permitted to enjoy the advantages attendant upon a permanent connection with the College. A persistent disregard of these was held to be a wrong done both to himself and to all those who might wish to profit by their opportunities, and such an individual was esteemed not to be a desirable member of the academic community.

In order to secure regularity of attendance upon College

exercises, these regulations provided that a daily record should be made of the actual attendance of every student, and that a monthly abstract of this record should be furnished to each parent in regard to his own son. If irregularities should occur it was presumed that they would attract attention, and that, if not satisfactorily accounted for, they would be restrained for the future by the exercise of parental authority. In case the number of absences from the exercises of any department should exceed a certain definite limit, it was further provided that the student should be debarred from attendance on the ensuing examination — a provision which removed him thenceforward from the list of candidates for a degree.

The rules further provided that the method previously in use for determining the relative standing in scholarship of the students of the several classes, by means of a system of numerical valuations assigned to their daily performances, should be discontinued, and that standing henceforth should be made dependent on the results of stated examinations conducted in writing.

At the time of the presentation of the last annual report of the undersigned, the regulations of which the purport is above succinctly given had been in operation during a single session, and the results of the experiment were stated so far as they were then apparent. If these were not in all respects all that could have been hoped, they were at least encouraging. In respect to the general deportment of the students, the improvement had been marked and manifest. The prevalent tone of feeling had become distinctly much more manly than it had ever been observed to be in previous years, and instances of wanton disorder by individuals were exceptional and rare.

In respect to attendance, there had been observed no increase of irregularity on the part of the majority. These had never felt it a hardship to be required to account to the academic authorities for every instance of absence, because they appreciated the benefit of attending and attended by choice. The removal of this requirement therefore produced no sensible effect upon

their habits of regularity. In every community of young men there will, however, always be some for whom the pursuit of knowledge is less fascinating than the amusements congenial to their age, or even than the allurements of indolence; and in the case of such there had been observed a disposition to take advantage of their comparative freedom, by carrying irregularity up to the last limit of safety. This fact was noticed in the report of the undersigned above referred to, and it was suggested that the proper remedy might be found in reducing the limit of tolerated irregularity to a much lower point, or abolishing it altogether. . . .

Since the report above mentioned we have had the opportunity to observe the further working of the system, until its points of strength and weakness have been fully brought to light, and the committee have seen reason to modify in a number of particulars their original regulations. A recent resolution of the Trustees having called upon them to reduce their conclusions to the form of statutes designed for permanency, such a form was reported by them at the last meeting of the Board, and this is now upon your table for consideration. It is proper here to explain the modifications above mentioned, which may best be done by continuing the history of the experiment.

Notwithstanding the evidence which had appeared that some amendment of the regulations might wisely be made, it was esteemed best to make no immediate change, but to leave the system to develop more fully its tendencies. In the meantime, the students were reminded that the evils which had appeared were simply a consequence of an abuse of the freedom which had been accorded to them, and which they were presumed to prize, and that, by repressing these abuses themselves, they had it in their power to obviate the necessity of any change. This is a kind of appeal which is well suited to influence the minds of most young men; but there are some, nevertheless, for whom present gratification possesses a seductive power which no consideration of permanent good enables them to resist, and

these are the individuals whose irregularities constitute the abuse requiring correction. The evil, therefore, did not disappear; but rather, with progress of time, seemed gradually to extend itself by infection. It was at this point that parental influence had been originally relied upon to come in to the aid of the College authorities. The records of irregularity in attendance were constantly reported to parents, but they seem to have been treated with indifference, or possibly but slightly examined, in cases where reform was most urgently needed, and this reliance proved a failure. The remedy obviously indicated under these circumstances was to make attendance once more obligatory, and to treat persistent irregularity as a just ground for severing the connection of the student with the College. This was the first of the modifications of the system above referred to, which the committee found it expedient to adopt.

The second related to the method of ascertaining the proficiency of students in scholarship . .

JUNE 5, 1871

The reports of scholarship during the past year have been in general extremely satisfactory. In every large body of students there will always be occasional cases of deficiency, arising in some instances from misfortune, and in others from lack of diligence. Of such, however, the proportion during the year now closing has been distinctly less than in many former years, and the result is entirely favorable to the plan of monthly examinations as a means of keeping students up to their work.

In regard to discipline, the minutes of the Board of the College exhibit a barrenness of detail which is truly gratifying. No occasion has occurred for the infliction of any grave College censure; and, as a general rule, the deportment of the students has apparently been governed by a sense of what is due to propriety rather than by an apprehension of the consequences of

transgression. This state of things is regarded by the undersigned with unusual satisfaction, inasmuch as it is one toward the attainment of which his most earnest efforts have been directed for years with a success which has certainly been steadily increasing, though it cannot perhaps be said to be even yet fully assured. For, while expressing his contentment with the good order which has generally prevailed, and the gentlemanly courtesy which has almost invariably marked the intercourse between students and their instructors, it is necessary frankly to admit that some incidents have occurred which form rather singular exceptions to this rule. To these, it is unnecessary here to make more than this slight allusion. They are anomalous in themselves, their causes have been somewhat obscure, and the fact of their occurrence has led to no consequences more grave than to deprive the undersigned of the satisfaction of saying at this time to the Trustees that the history of the past year contains no line which he could wish to have been unwritten.

It is difficult to understand why there should prevail in colleges any opinions of what it is permissible for a gentleman to do, any rules of propriety, or any principles of morality, different from those which are recognized elsewhere in polite society. It is difficult to understand why young men in such institutions should be willing to do, or should see others do without disapproval, things which, to use no stronger language, they would never think of doing except in their character as students, or of justifying except on the ground that students may do things which other men may not do without disgrace. Why, for instance, to illustrate by comparatively simple examples — not, however, be it distinctly understood, examples drawn from any recent experience of our own — why should it be only pardonable fun in a young man with a moral sense fully developed, to destroy a useful article of furniture, or to deface a wall, or to seriously injure a building, or to burst open and rifle a private desk, on the ground that he is a college student; when if he were anything else, he might be subjected to grave penalties for

these acts, under the municipal law? The perverted system of ethics which permits acts like these — and the current history of American colleges furnishes many such — to pass without condemnation, even if they are not treated as positively commendable, is believed to be in the main a pernicious inheritance which has come down to our time from a period when collegiate institutions were very different from what they are at present. To find a reason for its existence, we have to go back to the period when colleges were first founded, and to call to mind the objects for which they were originally intended. The universities of Europe, both English and Continental, were originally, according to von Raumer, schools for teaching only, and not for governing young men. Colleges were founded in England for the purpose of maintaining indigent students during their attendance on the university teaching; but they expected from their beneficiaries the strictest regularity of habits and the severest propriety of conduct, and they subjected them to a surveillance which was designed to make transgression all but impossible. Thus, while the university taught, the college undertook to govern, and with this division of labor affairs went on satisfactorily, so long as each confined itself to the functions thus prescribed to it. This at least was the case in England, although on the Continent the experiment of governing by means of collegiate organizations proved a failure. The system of perpetual vigilance was naturally irksome to its subjects; and it led, as such a system always will lead, to systematic efforts at evasion. And, as the regimen to which the students were subjected was felt to be always tyrannical and often cruel, no careful attention to nice discriminations upon points of abstract morality was deemed necessary in devising means to baffle its agents. It thus came to be held that falsehood is not shameful, provided it be employed only to deceive an academic governor; that the violation of seals or of locks is not mean, provided it be resorted to only to discover the secrets, or to destroy the records, of academic authorities; and that the destruction or injury of property is a perfectly defensible proceeding, provided

that the loss occasioned by such wantonness touches these same authorities only.

The system of constant supervision has been long since abandoned. A trace of its former existence still survives in the practice of occasional and purely formal visitation of the rooms of undergraduates, maintained to this day in many colleges, but answering no important end. The faculties of colleges are believed to be animated with a sincere desire to establish, between themselves and the students under their instruction, relations of kindness and mutual confidence. They are disposed to show the highest respect to the sensibilities of young men, and to impose upon them no restraints, and to insist upon the observance of no rules, but those which the common good requires and which recommend themselves to the conscience and the universal sense of propriety. The minds with which they have to deal are minds possessed of some maturity of judgment; and their choice is to appeal to this judgment, rather than to the rules of arbitrary law.

These sentiments in our own institution seem to be pretty largely reciprocated. In so far as they are not completely so, the fact must be accounted for by the existence still, to some extent, of that traditional feeling of divided interest between the student body and the academic authorities, which has come down from an earlier period, and which, through a mistaken *esprit de corps*, continues to be cherished after the causes in which it originated have principally passed away. Upon any other principle, it is impossible to explain the marked difference observable in this particular between the students of the literary colleges and those of the professional and especially of the scientific schools, where there is no difference of age, and where individuals occasionally even pass from one to the other and leave behind them their habits of thought as they pass. It is a source of gratification to us that we are here apparently outliving these traditions, and that we may reasonably hope, before many years shall have passed, to see them wholly disappear.*

* Report for 1870-71, pp. 21-24.

JUNE 2, 1873

The transformations which our colleges have undergone since the close of the last century in their scholastic systems, large as they are, are by no means so large as those which have taken place in their systems of government. That these institutions were not at that time designed for the mental culture merely of those who enjoyed their advantages, but also for their personal restraint, and the control of their conduct in petty details, is made evident by the usages which prevailed or the laws which were in force in them, in regard to offenses and their treatment. In some of the American colleges, corporal punishment was occasionally inflicted as late as 1795, and continued to be legal much longer. This fact marks, more distinctly than any other which could be mentioned, the place in the educational system assigned to the college in the popular estimation. It was a school for boys too young, it was supposed, to be restrained by influences purely moral; and who could only therefore be held effectually in check by the fear of physical suffering. This was the light in which the earliest established of all our American colleges was regarded for more than a century and a half after its foundation. During all this period, the principle that a student is bound in honor not to disclose under any pressure any knowledge he may possess as to the misdeeds of a fellow student was never heard of. It was neither asserted on the part of the student, nor recognized on that of the authorities. As late even as the year 1830, or later, it was in some colleges a part of the statute law that any student who should refuse to give testimony in any case under trial, on the ground that his testimony might implicate another, or on any ground whatever, should be dismissed, or otherwise punished, in the discretion of the faculty. The methods of proceeding which these rules were intended to sanction ceased practically to be employed long before the repeal of the rules themselves. The spirit of the government changed long before the letter was formally altered.

College government has, however, always been a government of written laws, enforced by penalties, and administered much more after the forms of a municipal than of a parental rule. It has prescribed certain duties and prohibited certain acts, no doubt in all cases for good and sufficient reasons; but the effect of the system has been to lead the student to overlook the reasons of the law, and to regard the law itself as arbitrarily creating all the obligation which exists either to perform or to refrain. And, as it is impossible that the restlessness of youth should not find any system of restraints at times irksome, it has followed that, from the earliest foundation of collegiate institutions, there has been a chronic antagonism between the governing authorities and the student body, which all the efforts of the most judicious governors have not been successful in wholly breaking down. To this cause are to be ascribed those violent agitations by which the peace of the most successful colleges has been occasionally disturbed, and those more petty infractions of order in which the student becomes forgetful of his proper academic dignity and relapses into the heedless and turbulent school-boy.

These things are, however, passing away. A larger change has come over the spirit of college government in recent years than even that which brought with it the abandonment of corporal punishment, or of the claim that the student shall testify against his fellow. The written law has become much less exacting, in matters of comparative indifference, than formerly. No rules prescribe the forms of deference to be shown by the student to the members of the academic staff. Exercises at inconveniently early hours of the morning are dispensed with. In many colleges, it is left to the conscience of each individual whether, or how regularly, he will attend the daily religious exercises of the chapel. And, in regard to scholastic exercises, the question has even been raised whether it would not be judicious to make attendance on these, also, wholly voluntary on the part of the student.

College government in our day is therefore gradually ceasing to be a government of arbitrary rule, and becoming more and more an influence acting through the understanding upon the conscience of the student. It is in this way becoming part of a valuable moral culture, which, under the opposite system, has been wholly lost; or rather which has been worse than lost, since the system of arbitrary rule in its tendency to provoke opposition tended also to encourage neglect and evasion of duty, dissimulation and untruthfulness. The improvement which has already gone so far is not likely to stop here. In the college of the future, we may confidently expect to see the relations of instructor and student, of the governor and the governed, established on a basis of mutual kindness and cordial good feeling; and a reign of order spontaneously existing such as no system of coercion and no activity of repressive police has been adequate to produce heretofore.

In speaking of the proposition to leave attendance on scholastic exercises to the voluntary choice of the student, the undersigned is not to be understood as favoring such a measure without qualification, but simply as disapproving the plan of enforcing such attendance by pains and penalties. The student who fails in regularity of attendance ought in so doing to incur some disadvantage which he shall feel to be self-inflicted. If, in resorting to the college, his object is to obtain the certificate of proficiency which her diploma gives, he must be made aware from the beginning that this great benefit can only be secured by following up faithfully the course of her regular teachings. If the effect of keeping this consideration always before him is to hold him closely to the discharge of his duty, a point important to college order will have been gained without any direct and offensive exercise of college authority. But, besides this, there will have been gained to the individual himself something a great deal more important; and that is the practical lesson that without steady persevering effort there can be no success worth attaining in this world.

For the past four and a half years, the only species of coercive influence which has been made to bear upon the students of Columbia College to constrain them to regularity of attendance on the daily scholastic exercises has been such as is here described. After the experience of a single session, the results of the experiment were communicated to the Trustees in the annual report of the undersigned for 1869, in words which might now be almost literally repeated, as descriptive of the subsequent history, without error. The attendance of the larger portion of the students is as regular as it ever was under the system of coercion. None are excessively irregular whom a system of penalties would be likely to restrain. If, under the present system, any become so negligent of duty as to make their further progress impossible, their course is arrested by means which spare them the publicity and the mortification which would attend on the operation of penal laws.

It seems probable to the undersigned that an experiment which has been attended with so happy results in this institution cannot fail sooner or later to make its way elsewhere. And there can be little doubt that, wherever it shall be introduced, the difficulties which from time to time have been experienced in the government of colleges will in great measure disappear.*

JUNE 6, 1881

In considering the subject of discipline, it has often occurred to the undersigned that the ends of good government in collegiate institutions might be better attained than is always at present possible, if the responsibility for the preservation of order should be thrown upon the students themselves. The weak point of the present system is that it conceals from the student the important fact that it is his own interest, and not that of the Faculty, that is mainly concerned in the maintenance of order. The idea, on the other hand, which is generally prevalent as to this matter in the student mind is directly the reverse of this.

* Report for 1872-73, pp. 32-35.

Order, conformity to rule, faithful discharge of duty are matters which the undergraduate assumes that the governing body are desirous and determined to enforce for the advancement of some interest of their own; and, instead of recognizing the benefit to himself which may accrue from this enforcement, he inclines rather to the apprehension that he may become a sufferer or a victim in consequence of it. Hence all the unwritten laws of the *Burschenschaft* involve the assumption of a necessary antagonism between the teaching and the student body. It is to the existence of this feeling that disorders among college students are mainly due. The chief incentive to such disorders is in fact to be found in the disposition to resist coercion or to defy authority, which is instinctive in the human breast. And the incentive is only intensified by the consideration that defiance in this case is not without danger; while the well-known fact that the danger is small stimulates boldness.

Could this mistaken feeling, so fruitful of pernicious consequences, be extirpated, college disturbances would soon cease to be heard of, and the peace of academic communities would preserve itself. There is one way, and apparently only one, in which this desirable result may be accomplished. It is to charge the faculty of the college with no other duty but that of instruction, requiring them to attend in their lecture halls at suitable hours for the discharge of that duty, and leaving students to profit by their instructions if they please. This is the mode employed by lyceums, institutes, and other organized bodies which offer courses of lectures to the public from year to year, and it is successful. If it be said that the order of public lecture halls is cared for by an omnipresent municipal police, the reply is that the same protection to the same degree would be available to the lecture halls of the colleges. If it be said again that the audiences which attend the public lecture courses referred to are mixed, and are not made wholly up of volatile young men, the reply once more will be that the majority of young men in college are not volatile, but are sincerely earnest seekers after knowledge.

All that is necessary to bring about an entire change in the spirit which at present generally prevails among the undergraduates of colleges is to let the young men who compose such bodies understand not only that the object for which they become such is to secure certain important benefits to themselves (of which they are usually sufficiently aware already), but that whether they accomplish this object or not depends entirely upon themselves.

The great majority of students in every college are sincerely desirous to avail themselves of the large opportunities for improvement which they find spread out before them. They are disposed to go on quietly profiting by those opportunities. They need no protection against themselves, and they will be found ready enough, if necessary, to protect themselves against others. These others can be, of course, only that exceedingly small minority who do not prize their opportunities, and who are not willing to allow others to enjoy them. Against such, the well-disposed regard it at present as the duty of the college authorities to provide them security; but so completely are they under the influence of the perverted ethical notions which contaminate all the moral atmospheres of the college that they not only withhold from those authorities their aid in the endeavor to discharge this duty, but they even assist in screening from detection the disturbers of the peace. Let it be understood that those who wish to learn shall guard themselves in the enjoyment of their rights, and the wanton disorders by which colleges are now so often disquieted will be known no more.

That college students have the intelligence to organize, and the executive ability to administer, efficient systems of government is experimentally proved by the fact that they form associations among themselves for a great variety of purposes, in all of which business is transacted with the strictest regard to the forms of law, and that they never find any difficulty in enforcing respect to the jurisdiction of authorities constituted by themselves. Let it be understood by them, therefore, that the doors

to colleges are open to them only for the purpose of giving them instruction, and that, unless they shall see to it themselves that no irregularities occur to disturb its officers in the discharge of this function, they will be closed; and the spirit which now so generally animates undergraduate bodies in American colleges, and which is the most prolific cause of troubles among them, will speedily disappear, and such troubles will cease to be known.

So far the undersigned had written, when, in taking up the *International Review* for June, 1881, he became aware that the scheme of college government which is here discussed from the point of view of theory had been already subjected for the past ten years to the test of practical experiment in the State University of Illinois at Urbana, and that the experiment has been a success. The story as told by President Gregory is instructive, and cannot but be profoundly interesting to every friend of the higher education in the United States. It can hardly be otherwise than that a scheme which finds so strong support in the simple principles of common sense, and which has sustained in one instance the test of a conclusive experiment of ten years' duration, must sooner or later become generally prevalent.*

* Report for 1880-81, pp. 18-21.

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X

IRREGULARITIES OF ATTENDANCE

JUNE 7, 1880

FEW persons are aware, or at least few are sufficiently aware, how greatly the value to the learner of the systematic instruction furnished by colleges is dependent on regularity of attendance upon its exercises. In every judiciously planned scheme of instruction, the successive parts are so arranged that each leads naturally to the next, and the later steps of progress are facilitated by the light thrown upon them from the earlier. Any omission of one or more of these steps breaks the connection and obscures this light, so that the learner finds himself, as time goes on, pursuing his studies with a consciousness of constantly increasing difficulty and constantly diminishing satisfaction.

The case is not like that of one following out a course of study by himself, or studying under the guidance of a private tutor. In such a case, on the occurrence of an interruption, the subject may be resumed at the point where it was left, or the preceding steps may be reviewed before advancing, so as to weld firmly together the portions disconnected by the interruption; and there is no loss but the loss of time. But in educational institutions classes always advance, and there can be no halt of the main body to allow stragglers to come up. The student who rejoins a class after an absence, even if it be but of a single day, finds his class at a point of the course separated from that with which he is familiar by an interval of which he knows nothing. If the interval is small, as in case of a single absence, he may perhaps, by extra effort, make good the defect of his knowledge, though this will, in general, be accomplished only imperfectly, since the regular work of the day, if faithfully performed, is sufficient to fill up profitably the time at his disposal. But when the interruption is long continued, or when many brief interruptions are scattered at irregular intervals over the course of a

session or an entire year, it is practically impossible to repair the serious loss which is the inevitable consequence.

There are some branches of study in which the gravity of the evil resulting from occasional and brief omissions is less immediately obvious than in others. Wherever the lectures or lessons of a series are not severally indispensable links in the logical development of a subject, as they are in the mathematics and in the exact sciences, but not necessarily in history or in the classics, the student, after losing one or two, may take up the thread again without being directly conscious of a disadvantage; but let these interruptions be repeated, and he will find that, long before they become positively numerous, the prejudicial consequences will be manifest even to himself. In any branch of exact science, however, even brief interruptions are unavoidably fatal, unless, by dint of extra effort, the gap is bridged over before it has time to widen. For it will widen if the attempt is made to overleap it and to follow the subsequent portions of the subject without reëstablishing the connection, since the dependency of these upon what has been omitted will be the source of a confusion which time will only increase.

Irregularity of attendance on the part of the student in college is a disadvantage as well to the instructor as to the student himself. When not occasioned by urgent causes (and the real causes of such absences are rarely urgent), it damps his zeal, as evincive of a want of proper interest in study. It compels him also, often, to repeat, for the benefit of laggards, illustrations which have been already given in the absence of such; and this increases his burdens. And, in this way, it becomes, furthermore, a material obstruction to the progress of the class.

The real causes of irregular attendance upon college exercises are, as just observed, in general by no means urgent. Some are probably so, but these are few. Cases of this class are serious illness, domestic affliction, or other circumstances beyond the student's control. Illness which is not serious — which is not, for example, of such gravity as to prevent the patient from walking

abroad, or from reading, writing, or engaging in light amusements at home — is often the reason assigned for the irregularity, when, probably, if the student had been animated by a strong desire to discharge his duty, it would not have deterred him. This kind of illness is usually transient, but in many individuals of seemingly robust health it is of noticeably frequent occurrence.

When illness is really so grave as to incapacitate a person for all business, and to arrest a course of college study for a period of weeks or months, the question is often presented whether it is just, either to the student himself or to the College, to permit him on his recovery to resume his place in his class. It may be obvious enough that he cannot profitably do so. He himself admits that, if the privilege is granted, he must be at a serious disadvantage; but he desires to proceed notwithstanding. He does not always ask exemption from examination upon the studies he has had no opportunity to pursue with his class; but he expects to be treated with indulgence in regard to them, and to pass upon a performance which, under other circumstances, would be condemned. To suggest to him that he would do better to join a lower class and to attempt with them, under more favorable conditions, the course which his illness has interrupted is rarely received cheerfully. Such a suggestion, on the other hand, is often looked upon as an injustice and a cruelty. His plea is that he was not absent by his own fault, that he was not wilfully sick, and that to exclude him from his class is equivalent to inflicting a punishment for a misfortune. This view is usually sustained by the parent, into whose plans it has entered that his son shall in four years receive his degree, and who is disconcerted at the prospect of disappointment. It is impossible, of course, for a faculty to refuse to such a petitioner at least a trial. The student is admitted to examination, or he is allowed to proceed with the privilege of "making up" his deficiencies at a later day. By this means, he may possibly succeed in saving himself; but the result, economically considered, is generally found

to be that he has only saved a little time at the expense of a valuable education.

The question, what degree of irregularity of attendance, or what length of interruption of the course of study, should be assumed to disqualify a student for the further prosecution of the course with the same class, appears not as yet to have been carefully considered. The same rule might not equally hold with every individual. In our College, the rough assumption has been made that the neglect of one exercise out of four furnishes a suitable limit. Upon this assumption has been of late years founded a working rule, designed to control irregularities.

Various expedients have hitherto been employed, here and elsewhere, to accomplish the same object. In most colleges, at present, the student is required periodically to account for his absences. Such as have been occasioned by illness or other urgent cause are excused, and thus disappear from the record; to the others, at least after they exceed a certain limit, there usually attaches some penalty. What should constitute an urgent cause, however, and what degree of illness should be accounted sufficient to justify absence are matters not well settled, and in regard to which the usages of different institutions are very various. The usages differ equally, also, in regard to the treatment of absences unexcused. In some institutions, the delinquent is made to suffer only in his standing, his grade being depressed in proportion to the number of absences. In others, he receives, in addition to this, a demerit mark which goes to swell an account which may make him ultimately liable to dismissal. In others still, a certain number of unexcused absences is followed by a form of college censure denominated an "admonition" or a "warning," for which is sometimes substituted a letter to the parent, commonly called "a letter home" — and sometimes the warning and the letter go together.

The theory of these modes of treatment assumes the delinquent to be a culprit, and requires that, like other culprits, he should be punished. In all its forms, this system is a partial sur-

vival in colleges of the methods of discipline common in schools for boys of tender years — a system which, a century or more ago, existed in colleges not partially only but in full. We learn, for instance, from Sibley's *Notes on the Harvard Catalogues*, that late in the first century of Harvard University, students of that institution were liable to be publicly flogged for grave offenses.

This system of government was not, however, so much out of character in the earlier period of our country's history as it seems to us now, for Harvard College, even as late as 1800, was little more than a school for boys, and the same was true of Yale College, Princeton College, Columbia College, and every similar institution in our country which dates back so far. It was a principle of this system that decorous behavior on the part of college youth can only be secured by constant vigilance on the part of their governors. Supervision more or less unremitting was consequently practiced over young men at all times, invading even the privacy of their own rooms. This, however, has been gradually abandoned; and if it anywhere survives it is only in the form of a visitation so brief, so perfunctory, and occurring at so long intervals, as to have lost all significance or effect.

As, in the theory of this system, the entire responsibility for the preservation of order devolves on and is assumed by the governing body, so, wherever it exists, it draws after it the natural consequence that the body governed feel themselves absolved from all such responsibility, and are even likely, occasionally, to experience a malicious pleasure in endeavoring to baffle the vigilance employed to restrain them. The moral effect of this kind of government cannot, therefore, be said to have on the whole been good. To a certain extent, it tended to foster the evils it was designed to repress. Practically, of later years, it has been almost wholly abandoned, though the abandonment has not been distinctly avowed. But young men are left very much to their own self-government, and efforts are made to impress them with the feeling that propriety of conduct is something they

owe rather to themselves than to constituted authorities; something they should aim at more for the preservation of their own self-respect than from the apprehension of vulgar penalties.

At Harvard University, attendance on scholastic exercises has for several years past been left — at least with the Senior class — to the regulation of this principle. Since the year 1874, the experiment of making presence or absence at such exercises entirely voluntary for this class has been on trial there, with results so far satisfactory that more recently the same freedom has been extended to the Junior class also. The results of the experiment up to 1878, as given in the reports of the dean of the faculty to the president for that year and the year preceding, are very interesting. In preparing the statement, all students who are continuously absent for long periods are omitted. It appears that under the voluntary system, as compared with the compulsory, the average number of absences for each student during the year is materially increased, being about threefold as great as before; also, that the number of individuals in the class whose regularity of attendance remains wholly unaffected by the change of system is very small. For example, in a class of 132, in which, during the Junior year, under the system of compulsion, there were 37 whose absences did not exceed ten; during the Senior year, under the voluntary system, there were only 10 whose record showed so small a number. In the same class, there were 86 whose absences during the Junior year did not exceed thirty; but in the Senior year there were no more than 32 equally regular in attendance.

By means of a tabulation in groups according to scholarship, each group being formed of an equal number, usually 10, it appears, as might naturally be expected, that as irregularity increases, the grade of scholarship sinks. But, by comparing similar groups for the Junior and Senior year successively, it appears that, in spite of the increased average of absences in the latter year, the scholarship of about three-quarters of the Class of 1878 improved, while that of one-quarter fell off, and that of 6 indi-

viduals only remained stationary. The most general improvement occurred among the students of the lower grades, and is attributed by the reporter to increased effort consequent upon apprehension of the loss of a degree, no fewer than 19 members of the preceding class having suffered this misfortune. It is supposed also to have been in a measure owing to a resolution of the Faculty in operation during 1878, under which a student falling below 70 percent in scholarship, and apparently abusing the privilege of voluntary attendance, was liable to be deprived of this privilege for a greater or less time. In a number of cases, this privation was actually inflicted, but only for periods not exceeding two months. It is believed by the reporter that the apprehension of its infliction was a more effectual restraint over individuals inclining to irregularity than the privation itself.

The adoption of such a resolution would seem to be a tacit confession of the failure of the plan; yet it was after it had been in operation a year that the faculty found themselves sufficiently satisfied with the results to be willing to extend to the Junior class the same privilege, subject also to the same restriction. That the dean of the faculty regards the restriction as injudicious may be inferred from the following observations as to the possible effect of its enforcement upon certain members of the Class of 1878:

Even if the regularity of attendance of these students had been increased in a much more considerable degree than was done last year, this compulsory punctuality, maintained by no habit and having no foundation in character, would still appear to me to be of little consequence. If seven years of previous training in school and college have not taught the student to prize his opportunities for instruction, or enabled him to rely upon himself for the proper regulation of his attendance, no great gain is to be expected from a process which enforces the appearance of punctuality during an eighth year. If the lesson of self-control is still to be learned by those who have failed to learn it under a system of required attendance, it must be by a total change of method. To apply, even with some relaxation, the system of compulsion, is only an acknowledgment of failure, and the postponement of an indispens-

able part of the work of education to a later period than that in which it properly belongs.

As for the absolute results, it appears that, taking the four classes which had been under the operation of the new system down to the end of 1878, the average number of absences per annum for each student was 65 out of 360, or one out of every five and a half; which is equivalent to 18 percent. In more detail, one student was absent nearly half the time; 13 were absent more than once out of three times; 29 more than once out of four; 55 more than once out of six; 100 more than once out of twelve; 111 more than once out of eighteen; and 125 more than once out of thirty-six — leaving only 7 within this latter limit.

The interest of these details consists in the light they throw upon the efficacy of different modes of treatment during the period of college life in exciting in the student a sense of personal responsibility for the faithful discharge of duty. A system of regulating attendance having the same end in view has been in operation in our College for the past ten years, which, in its results, compares more than favorably with that above described — is practically, in fact, a good deal more effectual — and which is applied equally to all the classes without distinction. It will never be possible in any college to suppress irregularity of attendance entirely. It will never be possible to reduce it to that minimum amount which the uncertainties of health, and the certainty of accidents against which human foresight cannot guard, make it always necessary to allow for. From the experience of any ordinary college, it would be impossible even to ascertain what this minimum is. The same difficulty is not encountered in military schools, where the willful absence of a cadet from any exercise is a heinous breach of military rule subjecting the delinquent to trial by court-martial, and where illness is no excuse for the omission of any duty unless upon the certificate of the post surgeon. At West Point, as the undersigned has been authentically informed, the average of absences from

class exercises, except such as are occasioned by the exactions of military duty — being on service, for example, as “ officer of the day ” (in which case the exercise must be made good the day following) — or when, as very rarely happens, a cadet is absent from the post on leave from the superintendent, do not exceed the proportion of one in a hundred. On the other hand, it is to be considered that the United States cadets are obliged to undergo a careful medical examination before being admitted to the school, and that none are received who are not pronounced sound in health and vigorous in constitution; also, that the simplicity of their regimen, the regularity of their habits, the healthful nature of their daily physical exercises, and their enforced attention to hygienic rules make them less liable than young men generally to be disabled for duty by illness. It is probable that the minimum average of absences absolutely unavoidable in any college would be at least two or three times as great as at West Point.

In our own College, and in every such institution whose students do not reside in the buildings but are scattered over a rather large extent of territory, the unavoidable absences are necessarily more numerous than elsewhere. We have more than 120 students whose residences are beyond the rivers which bound this island, and who are liable to various detentions impossible to be foreseen from trains, ferries, and street cars. Even of those who live on the island, the homes of many are from one to three miles distant from the College. There is, therefore, a more than usual liability here to fail in punctuality of attendance at the early exercises, which failure is recorded against the student as half an absence. The number of these unavoidable half-absences occurring during the year is sufficient to affect very sensibly the final total; so that the number of apparent absences for the year or session is always considerably in excess of the number of real absences.

It is now ten or twelve years since the plan of enforcing regularity of attendance on College exercises in this institution

by ordinary penalties was abandoned. At the founding of the School of Mines, in 1864, a rule was adopted for the students of that School, that no one should be allowed to attend the regular examination for any term in any study from which the record showed him to have absented himself from more than one-fourth of the exercises. Exclusion from any examination carried with it, of course, the ultimate liability to be refused a diploma. If the student thus debarred could show that his absences had been in every instance justifiable, he might, in the exercise of a judicious clemency on the part of the Faculty, be relieved from the ban; but this he could not claim as a right — the theory being that without a certain degree of regularity of attendance it is impossible for him to acquire that knowledge of the subject taught which an educated engineer ought to possess. In other words, non-attendance was not regarded as a misdemeanor, nor exclusion from examination as a punishment. This latter measure was simply designed as a protection for the character of the School.

The experience of a few years was sufficient to demonstrate very clearly the effectiveness of this rule, and though the motives to which this effectiveness was owing could hardly be supposed likely to have altogether the same force with students of the College as with those of the School, it was resolved to try the same experiment with them also. For several years after this, however, they were allowed to present excuses for absences, as they had been required to do before, the absences thus excused being deducted from the total number of required exercises, and exclusion from examination being enforced only on failure of attendance at more than one-fourth of the remainder. More recently, the excuse system has been abandoned, and the students in College have been placed in this matter upon exactly the same footing as those in the School of Mines.

The system is now practically voluntary, since under it irregularity is no longer treated as a misdemeanor, nor followed by any College censure. It renders the student liable to forfeit the advantages which he comes to College professedly to secure,

and makes him responsible for the consequences of his own acts, precisely as he is in the management of every other personal interest. One great advantage which it has as a working system over the system of compulsion is the extreme simplicity of its application. The record of attendance exhibits only the actual number of absences and the times of their occurrence, without regard to the causes which may have occasioned them. At the close of the session, the names of those students whose absences exceed the limit in any department are posted on the bulletin. If any one of these students fails to justify his absences, he is debarred from examination in that subject at that time. At the resumption of the College exercises after the long vacation in the summer, he may be allowed a pass-examination, but cannot be examined for merit.

As to the results, it may be said, in the first place, that in passing from the compulsory to the voluntary system, no sensible change in respect to regularity made its appearance, except in the case of a very limited number whose irregularities had always been marked. As to the better class of students, there occurred no change at all. In the first years of trial there were, usually, at the close of each session, a few individuals debarred from examination in some studies, but more recently these cases have been very rare. It has been almost invariably true that when a student has exceeded the limit, he has been able to show by the certificate of a physician, or by other satisfactory evidence, that his absences have been occasioned by illness or other causes beyond his control. In order that he may be able to produce this evidence, if necessary, he is required to keep his own account of his absences as they occur, with proper memorandum of their causes. No excuses of any kind are receivable during the course of the term.

In further illustration of the practical operation of the system, the following numerical statements in regard to the session just closing may be interesting. It should be remarked that irregularities are always greater during the second session than

during the first, perhaps on account of the weariness resulting from effort long continued without intervening seasons of relaxation. At the close of this session, two students only, out of the whole number of 275 present, were found to have exceeded in every department the limit of allowable absences; and in one of these cases the absences had been occasioned by continuous illness, leaving, consequently, a single individual only under the disability imposed by the rule. Thirteen others had exceeded the limit in one or two studies; but in all these cases the absences were satisfactorily accounted for. At the close of the first session of the year, it may be here remarked, the limit was not passed in any case or in any study.

The records further show that, in the Senior class, one student out of nineteen had not been absent at all; in the Junior class, one student out of twenty-one had not been absent; in the Sophomore class, one student out of thirteen, and in the Freshman class, one out of nine had not been absent from a single exercise in any study.

The average number of absences during the session for the whole College body was a small fraction over 14 out of a mean number of exercises of 226, or 6.3 percent. It is impossible now to compare this result with that which was obtained under the system of ordinary penalties many years ago, but the figures given by the Dean of the Faculty of Harvard University as to attendance during their Junior year, under the compulsory system, of the four classes in that institution graduating in the years from 1875 to 1878 inclusive, enable us to make a comparison which is practically equivalent. The total number of students in those four classes amounted to 588, and the average number of their absences, in which it does not appear that half-absences are included, was 24.4 out of 400 exercises, or 6.1 percent: a result differing only slightly from that above given for Columbia College during the last session.

Comparing classes with each other as to the matter of irregularity, it appears that the largest average of absences during the

sion was made by the Sophomore class, and amounted to $18\frac{1}{4}$: of 226 exercises, which is equivalent to 8 percent. The freshman class follows next with an average of $14\frac{1}{3}$ out of 222, which is equivalent to not quite 6.5 percent. The average number of absences in the Junior class was only $12\frac{2}{3}$ out of 219, amounting to 5.8 percent. For the Senior class the average isallest, being only $11\frac{1}{6}$ out of 238, which is equivalent to 4.7 percent.

There is every reason to be satisfied with the results here presented, and it cannot be doubted that this plan of enforcing attendance, which has now been subjected to the test of more than ten years' trial, is quite as effectual as any other in securing : immediate end in view, viz., regularity of attendance, while stimulates in young men a sense of personal responsibility for : consequences of their actions which contributes essentially the formation of character.

It would seem to be a natural deduction from the numerical ults above given that an allowance of so great a proportion unquestioned absences as one-fourth, is above the necessity the case. This inference was reached more than a year ago in : Faculty of the School of Mines; and, by a resolution of that dy, the limit of allowable absences was reduced for the students of that School from one-fourth to one-tenth. This narrow limit has been the rule during the past year, with a result not ly entirely demonstrating the correctness of the inference, t proving still farther, what was quite unexpected, that the crowder the limit the smaller is the number who exceed it. In int of fact, at the close of the year, it is true of the School as the College that there is only a single individual in it who is barred from his examinations by reason of the excess of his sences.*

* Report for 1879-80, pp. 15-29.

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XI

CHAPEL ATTENDANCE

JUNE 7, 1875

THERE is nevertheless one subject connected with the order of the College which the undersigned cannot but regard with some concern, and in respect to which there seems to be a necessity for some action on the part of the Trustees. There are now upon the College grounds about three hundred fifty students, of whom fewer than one-half are required to attend a religious service every morning in the chapel, while the remainder are exempt from this obligation. The average age of these two classes of students is not far from equal. They mingle freely with each other; they are instructed to a great extent by the same professors; and in some instances they sit side by side and listen to the same lectures. They have many social interests in common; they engage together in the same athletic sports; they are members of the same rowing association; and they unite in publishing a periodical which represents both bodies and is conducted by a board of editors drawn equally from both schools. It is therefore not a thing to be surprised at, however much it may be regretted, that the students of the College should be discontented under what seems to them the severer regimen to which they are subjected. This feeling has conspired with other causes to render it difficult, in the first place, to enforce regularity of attendance without resorting to penalties which are felt, not only by students, but occasionally by their parents, to be unreasonable; and, in the second, to secure that attention to the service and that reverential demeanor during its continuance which are proper and becoming in those who ostensibly engage in it. These difficulties were felt, it is true, but not to the same degree, before the growing up of the School of Mines, and there were influences then tending to reduce them which no longer exist. Chief among these was the recognition, on the part of the members of the Faculty themselves, of the obligation to attend

the service, and the fact of the universal and regular attendance of both professors and tutors. More than that, there was once a duty to be performed in the chapel itself, devolving upon the officers whose classes fell upon the hour immediately succeeding the service, which was to call the class roll before the service began, a duty performed a second time on the reassembling of the class in the lecture room immediately after the service was over. And though this usage had been discontinued a year or two before the connection of the undersigned with the College commenced, the daily attendance of the officers continued nevertheless long after to be as regular as before. But this practice has by one after another been gradually abandoned, until, at the present time, no professor attends daily, and there is only one who is accustomed constantly to give his attendance on the days on which his classes fall in the first hour. There is also one other who gives his occasional attendance under like circumstances; but there are several who have not been present even once in the chapel since the academic year began, and others who have been so very rarely. The tutors never attend; yet by reference to the Statutes, Chap. I, Sec. 4, it will be seen to have been as much the duty of the officer as of the student to be present every day.

The undersigned has very many times brought this matter to the attention of his colleagues, referring to the statutes, and representing the demoralizing influence upon the students which is a consequence of this general neglect of duty; but such appeals have been practically unavailing. It has usually been replied that the instructor needs the time occupied by the service to prepare for his class; and, when it has been suggested that such a plea cannot justify the neglect of a statutory duty, the answer has been confidently made that the Trustees, notwithstanding the statute, do not expect or desire the attendance of the officers on this exercise. This is possibly true, but the undersigned is in possession of no means of knowing what the Trustees expect or desire except their own words.

Other influences which, some years since, served to aid in securing a less reluctant if not actually cheerful attention to this duty on the part of the students were the following. To every absence from chapel service, no less than from lecture or from recitation, was attached a certain numerical demerit. Petty misdemeanors were marked in the same way. At the close of the session, the total of all such demerits was subtracted from the total of merit marks received for performances in the classroom, and it thus operated to depress the standing of the student in scholarship. The demerit for absence from chapel was pretty heavy, and no student could well afford to incur it often. But, whatever may be said of the usefulness of a system of demerit marks as penalties for misconduct, it is believed that no college at the present time continues the practice, once so common, of combining these marks with the record of scholarship, though that is still done in the military schools from which the plan was originally derived; and it is hardly probable that this practice will ever be revived.

Monthly reports to parents of the record of attendance at chapel had also some years since an influence in promoting regularity which more recently it has not seemed to possess. After the abandonment of the system of demerit marks, which took place about seven years ago, parental influence was for a time the most efficient means of securing the desired object. It seemed to the Faculty so entirely sufficient that, though they are authorized and required to enforce attendance on all College exercises by proper penalties (Statutes, Chap. V, Sec. 1), they did not esteem it necessary to establish any such penalties for delinquencies of this kind. It is now about three years since the influence thus relied on began from month to month to be visibly less apparent; and at the opening of the session of 1872 a direct attempt was made to revive it by means of a circular letter addressed by the undersigned to the parent or guardian of every student in the College. The result was a temporary improvement, which, however, faded away before the close of the academic

year; and during the year following the attention of the Faculty was often called by the undersigned to the almost inevitable certainty that, without the adoption of some positively coercive measure, the chapel exercise would soon cease to be attended at all. Nothing was done, however, during all that year, to remedy the evil; but at the opening of the session in October last a resolution was finally passed which puts absences from chapel upon the same footing as absences from recitation, in the respect that when they exceed a certain limit they shall operate to debar the student from his examinations. This rule has been effectual in checking the evil of irregularity which had grown to be so great; but it has been regarded by the students as oppressive, and this feeling has in some instances been shared by parents. The consequence is that there has prevailed a restlessness in the chapel which has been greatly annoying to the Chaplain, and has necessarily produced an unfavorable impression upon strangers who have been occasionally present at the service. But what is worse than this has been the not unfrequent attempts of individuals to create disorder during the exercise of singing, by assuming an unnatural voice, or by exerting all the force of their lungs. Such irregularities could of course be easily restrained if it were possible to identify their authors; but this in a multitude is usually impossible.

It has seemed to the undersigned that this matter ought to be brought to the attention of the Trustees. In other colleges — at least in those with which the undersigned has been connected — there is a kind of supervision in the chapel which makes such irregularities practically impossible. In Yale College chapel there were formerly, and it is presumed that there are now, as many as eight officers besides the Chaplain present at every service, and occupying seats in different parts of the chapel, all of them sufficiently elevated to overlook the students in their vicinity. If we are to continue to enforce attendance, some such system of police seems to be indispensable. It would no doubt contribute much to diminish the evil if the professors and tutors could be

induced to show their respect for the exercise by attending personally and voluntarily; but it would probably do away in some measure with the demoralizing effect which their habitual absence occasions if the statutory provision requiring their attendance at all should be removed. This provision and the general disregard of it are often commented on by the students, and such comments have even been made publicly in the periodical published by them. But if nothing of this kind can be done, it is a question which deserves consideration whether the exercise of singing should any longer form a part of the daily service. It is the opportunity which this exercise affords for practicing in security the irregularities which do most to induce an undevo-tional state of mind, which is after all the principal source of the evil.

An alternative proposition would be to dispose of obligatory attendance, a plan which would no doubt materially diminish the number attending, but would insure that those who do attend would come in a reverential spirit. It is a plan which, as already stated, has been tried before and has had this result. It does not insure the entirely regular attendance even of the piously disposed, for these come directly in many cases from participating in the morning devotions of the families to which they belong, and they hardly feel it to be a personal, when it is not a legal, duty. It has been even urged with the undersigned that the occasion for the morning religious exercise passed away when the College ceased to be a residence and home for the students, and that on this account alone the compulsory feature ought not to be maintained. One thing, however, is very clear to the under-signed, and that is that if this feature is maintained, some system of supervision must be contrived and put into operation, which shall act as a restraint upon the irregularities which prevent the exercise at present from being what it should be, edifying and profitable.*

* Report for 1874-75 (manuscript).

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PART TWO
EDUCATION OF WOMEN

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XII

EDUCATION OF WOMEN

JUNE 2, 1879

THE condition of the College is now such as to justify the suggestion of the question whether its advantages should not be opened to young women as well as to young men. This question has been brought to the attention of the Trustees heretofore by outside parties, and the reception which it met has been such as to indicate that the minds of the Board are not favorably prepossessed in regard to it. There has been hitherto, however, no room for considering it upon its merits; for, whether regarded favorably or not, so long as the College was confined within its recent narrow accommodations, the measure has been impracticable. Not that the admission of young women requires any considerable provision of space greater than that which is necessary for young men only; but that, in arriving at and leaving the building, they need their separate retiring room and cloakrooms, and no apartments could be found in the old building suitable for this purpose. That difficulty no longer exists. The measure has become practicable. There can be no harm in inquiring whether it is not also expedient.

Many considerations suggest themselves which make in its favor. In the first place, there can be no doubt that, among many of our most judicious thinkers, and possibly with even a majority, there exists at this time a profound conviction that, in the interests of society, the mental culture of women should be not inferior in character to that of men. The condemnation of that kind of female education which in past years has been too prevalent — in which the useful has been made subordinate to the ornamental, and what are called accomplishments have taken the place of solid acquisitions — is all but universal. The demand has been made, and its reasonableness has been generally conceded, that the same educational advantages should be offered to young women which young men enjoy. But when the ques-

tion is raised as to how that demand shall be met, there is no longer found to prevail the same unanimity.

One obvious method is to improve the female schools. Of such institutions there are, and have always been, a sufficient number; but the fault of most of these is that they furnish the merely superficial and ornamental education of which complaint is made. Such cannot be improved except by reconstruction, for their instructors cannot rise above their own level, and their proper level is indicated by the teaching they have been accustomed to give.

Another method is to create colleges for young women identical in form with the existing colleges for young men, embracing in the scheme of instruction the same subjects in the same order, and conferring at the end of the course the same academic degrees. Examples of this kind of institution are seen at Vassar College, in this state, and at Rutgers' Female College, in this city. The objection to these is that they cannot, or at least in general will not, give instruction of equal value, though it may be the same in name, with that furnished to young men in the long-established and well-endowed colleges of highest repute in the country, and that it is unjust to young women, when admitting their right to liberal education, to deny them access to the best.

In England, the reasonableness of this objection has been tacitly admitted by the creation of a college for women in the vicinity of Cambridge, in which the studies are the studies of the Cambridge colleges, and the teachers are the teachers of the same colleges. Girton College has now been for a number of years in existence, and of its success the most glowing accounts have been made public. So encouraging have been the results of the experiment that, more recently, the University of Oxford has been enlisted in a similar undertaking, funds having been raised for the endowment of a college for young women in the town of Oxford itself. In our own country, Harvard University commenced, six years ago, a system of examinations for women, held periodically in Cambridge, Boston, New York, Philadelphia,

and Cincinnati, by committees of the faculty (the candidates pursuing their studies at home), in twelve different subjects, viz., English, French, German, Latin, Greek, arithmetic, algebra, geometry, physics, botany, physical geography, and history. More recently the same university has instituted a regular course of college instruction for women, to be carried on at Cambridge by the officers of the university on the same plan as at Girton College, or at the Oxford College for Women, in England.

These several modes of solving the problem are founded on the idea that, while it is just that equal educational advantages should be accorded to young persons of both sexes, it is not expedient that the two classes should receive instruction in common. In our country, however, this idea is not by any means universally prevalent. On the other hand, in more than half the colleges of the United States, young women are admitted on the same terms as young men, and attend the same instructors in the same lecture halls at the same hours. The usage is more general in the western than in the eastern states. But we have two conspicuous examples, the Cornell and the Syracuse Universities, in our own state; and there is one in Massachusetts, the Boston University; and one in Connecticut, the Wesleyan. Yale College admits young women to her school of the fine arts. In the Michigan University, which, in numbers and in standing, ranks among the leading educational institutions of the country, out of a total of more than 400 in the school of letters and science, between 70 and 80 are young women. The colleges of the country, excluding those under the control of the Roman Catholic Church, are, according to the latest enumeration, 355 in number. Of these, 183 are open to students of both sexes.

In many of these colleges the students are permanently resident, separate buildings being provided for the female students. The Sage College at the Cornell University, founded by the liberal friend of education whose name it bears, is a splendid edifice erected for this purpose. In others, as at Syracuse, the students of both sexes, with few exceptions, attend at the college

only during the day, and out of class hours reside at home or in private families. This arrangement relieves the instructors of responsibility for general supervision, and leaves no room for the occurrence of troublesome questions of discipline.

As to the practicability of adopting this plan in our College, no question will be raised; but doubts may be entertained as to its expediency. It would be difficult, nevertheless, to suggest any reason which will bear very close examination, why it should not be adopted. The admission of young women into the classes would not in any manner interfere with or embarrass the processes of instruction as they are now conducted. No modification of the arrangements of the classrooms would be necessary. So many more units would simply be added to the number, and so many more names to the class roll. In every scholastic exercise the young women would be regarded as the young men are regarded — merely as students.

It cannot be denied that there is, in some minds, a feeling of aversion to this proposition, which does not seek to defend itself by reasons, but inclines those who entertain it to dismiss the subject without argument. This is probably owing principally to the fact that the admission of young women into colleges is an innovation upon immemorial usage. The spirit of conservatism never fails to rise up against novelties, no matter how cogent the arguments by which they may be recommended. That it is this spirit mainly which opposes the opening of colleges to women, rather than anything inherently objectionable in the proposition itself, is made quite evident by the fact that no such opposition manifests itself to the association of students of both sexes in the academies and high schools with which the country abounds, many of which profess to teach the same subjects as the colleges, to the same extent, and to pupils of similar ages, differing chiefly in the fact that they have not a determinate course of four years, and do not confer degrees in arts.

The opposition to the proposal which has its source in the feeling here referred to is no doubt the most serious of the dif-

ficulties in the way of its adoption, simply because feeling is not controlled by judgment, but remains often unchanged after the understanding is convinced. Objections are, however, sometimes made to the plan which appeal to the reason. Thus there are those who hold that the average female intellect is inferior in native capacity to that of the stronger sex, and hence infer that the association of the sexes in the same classes will have a tendency to depress the standard of scholarship. It is unnecessary here to go into the general argument upon this point, for it is not in the effort to master those elementary facts of knowledge or principles of science which form the material and the instrument of early mental training that the relative ultimate strength of different minds can be tested. There is in some intellects a quality of activity, of quickness of perception and readiness of combination, which, within given limits of time, is more than a compensation for more slowly moving power. And this is a quality which observation has proved to be peculiarly characteristic of the female mind. Similar observation, moreover, has pretty well established that, as a rule, girls are more diligent in study than boys, a fact which has an important influence on the record of their scholarship.

The experience of institutions where this point has been practically tested proves, moreover, that the presence of young women as members of college classes tends to a result directly the reverse of that which the objection supposes, and has the effect to raise rather than to depress the average scholarship of the classes to which they belong. In regard to this matter, the results derived from a comparison of the record made in Cornell University during the years preceding and the years following the opening at that institution of the Sage College for Women, which have been kindly furnished to the undersigned by Vice-President Russel, are exceedingly interesting as well as instructive.

In order to understand the significance of these, it is necessary to bear in mind that in every college a larger or smaller

proportion of the matriculates of a given year usually drop off before the close, for a variety of reasons, among which are failure of health, failure of means, the disciplinary acts of the faculty, and loss of position in consequence of defective scholarship. All these causes, except the last, are pretty uniform in their operation; and, with the same exception, the effect of all of them united is never very considerable. The variations, then, in the total magnitudes of the losses, when successive years are compared with each other, must be mainly due to the operation of the cause last mentioned, the varying numbers who fail from deficient scholarship.

Now it appears that, at Cornell University, during the years which preceded the admission of young women, the losses during the year averaged 26 percent, or more than a quarter of the entire number of the matriculates, per annum, while for the seven years that have passed since that date, the losses have averaged only 16 percent per annum. During this latter period the standard of attainment for admission has been twice raised, and the term examinations have been made steadily more and more rigorous. Either of these causes might have been supposed likely to increase the proportion of losses, yet no such effect has followed from both of them together. It has been added, in a statement by an officer of the university recently printed, that "these seven years have witnessed a marked improvement in the quality of the whole institution"; and further — a very noteworthy fact — that during the entire period "no young woman has been dropped from the rolls through failure at examination." So far as the experience of this institution is concerned, the evidence is quite conclusive that the admission of young women as students into college classes has the effect to raise rather than to depress the standard of scholarship.

Another objection to the plan is found in the assumption that the course of study prescribed in colleges is too severe to be attempted without danger to the delicate constitutions of young women. This proposition has been elaborately maintained by an

eminent authority, whose views have had a wide circulation, and have to some extent impressed the public mind. So far as these views are founded on *a priori* considerations, they are mere opinions, to which the opinions of other authorities no less weighty may be opposed. So far as they are founded on observation of injurious results presumed to have followed from overtasking the physical powers by excess of study, it would be easy to demonstrate, by similar examples, that the course of college study is too severe for young men as well.

But this argument, if it proves anything, proves too much. It is not the kind of study which harms, if study harms at all, either young women or young men; it is the quantity. And, certainly, valueless as the teaching in many young women's "finishing schools" may be, it is usually heaped up upon its victims to an extent not inferior to that which the college course requires. It is inconceivable that the exercise of the mind upon the solution of an algebraic problem, or the interpretation of a passage in Homer, can be more exhausting than a similar exercise over the French irregular verbs; or even so much so as the confinement of hours daily in bending wearily over the drawing table, or drumming on an ill-tuned piano. The argument of the objector, however, begs the whole question, by assuming that this is really the case, while his opponent might reply that if he has proved anything, he has simply proved that young women ought not to be educated at all.

Of course no one will contend that excess of study cannot but be injurious to the young of either sex. If young women in college commit this error, they will suffer for it, and so will young men. We see examples of this kind occasionally in the youth of our own College; but, however we may regret these, we do not consider it advisable to discourage young men from entering college on that account. Could it be proved that the studies taught in college offer to young women a more dangerous temptation to excess than those which form the substance of the more ornamental education they have been heretofore accus-

tomed to receive, the fact might suggest the propriety of greater vigilance to arrest this tendency; but it certainly could not justify us in cutting them off from these so fascinating studies altogether.

There is one consideration bearing on the plan in question which is positively favorable, and is not without importance. The presence of young women in colleges is distinctly conducive to good order. Nothing is more certain than that the complete isolation of young men in masses from all society except their own tends to the formation of habits of rudeness, and to disregard of the ordinary proprieties of life. No degree of good breeding, no influence of social refinement in the family circle, can effectually secure a youth against this danger. It is this which explains the frequent participation of young men in college in acts which in other situations they could not be induced to countenance, and would even regard as reprehensible. Any circumstance, whatever it may be, which destroys this isolation, and subjects the youth to the wholesome influences which protect his moral tone in the ordinary environment of society, cannot but be beneficial. Such is the effect of the presence of women in college. On this point the undersigned is able to speak with the authority which belongs to knowledge experimentally acquired. As an officer of the University of Alabama, it was his custom for years to invite the attendance on his lectures of classes of young women from a neighboring female seminary, and others resident in the town of Tuscaloosa. The advantageous effect of this upon the manners of the young men was a subject of common observation, and the results were so satisfactory that the example was followed by other officers of the same institution, so that scarcely a day passed without the presence of young women in one or another of the college classes. These were not matriculated students, it is true, and they did not directly mingle with the young men; but this circumstance tended rather to diminish than to increase the influence which their presence exerted, and yet this influence was very decided.

The elder Silliman, during the entire period of his distinguished career as a professor of chemistry, geology, and mineralogy in Yale College, was accustomed every year to admit to his lecture courses classes of young women from the schools of New Haven. In that institution the undersigned had an opportunity to observe, as a student, the effect of this practice, similar to that which he afterward created for himself in Alabama, as a teacher. The results in both instances, so far as they went, were good; and they went far enough to make it evident that if the presence of young women in college, instead of being occasional, should be constant, they would be better.

But it is still objected that though the association of young women with young men in college may be beneficial to the ruder sex, it is likely to be otherwise to the gentler. The delicacy and the reserve which constitute in so high a degree the charm of the female character, are liable, it is said, to be worn off in the unceremonious intercourse of academic life; and the girl who enters college a modestly shrinking maiden is likely to come out a romping hoyden, or a self-asserting dogmatist. Those who make this objection argue rather from assumed premises than from any facts of observation. It is sufficient to say that the experience of the high schools of the country fails to furnish ground for this impression; and that no such results have been observed in any of the numerous colleges in which the experiment has for years been tried.

There is another and final objection, less frequently urged in these discussions than those above enumerated, yet probably often in the minds of those who do not urge it, which is founded on the supposed disturbing influence which sentimental causes may exercise over the spirit of study. If young people of both sexes are associated in the same institution, and thus permitted to meet frequently and familiarly, their thoughts, it is imagined, will be likely to be more constantly occupied with each other than with their books. An appeal might here again be made to experience to show that this danger is exaggerated. And it might

be said with justice that the comparative freedom of school intercourse tends far less to excite the imaginations of impressible youth, and clothe for them the objects of their possible admiration with unreal charms, than do the more constrained and less frequent opportunities of mutual converse afforded in general society.

But, however that may be, the argument is inapplicable to the circumstances of our particular case. Here no opportunities for intimate intercommunication exist at all. The students attend only during a limited number of hours daily, and during their attendance they are constantly in class and occupied either in listening to instruction, or in the performance of their own scholastic duties. No common halls of assembly exist, in which they may gather, either before the exercises of the day commence or after they are over. From their tiring rooms, which will be entirely cut off from every other part of the building, the young women will pass directly to the lecture rooms, and at the close of their daily tasks will retire in the same way. Throughout the entire duration of the college course, they will be resident in their own homes, and surrounded by every protecting safeguard that parental solicitude can provide. If it is really desirable that the educational advantages offered to young women should be equal to those which young men have been so long permitted to enjoy, it would seem to be neither reasonable nor right that they should be excluded from the institutions where such advantages exist. If it is not desirable, of course, the argument falls to the ground.

The measure here under consideration, should it meet with approval, would not probably be productive of any immediate visible effect. Few young women would be likely to present themselves as candidates for admission within the next few years, because there are few in this community who are likely to have given attention to the studies required as preparatory to the college course. But after that period, in a great city like this, a very considerable attendance might be anticipated, and thus our

College would enter upon a new and important field of usefulness.

Whatever may be the fate of the present suggestion, the undersigned cannot permit himself to doubt that the time will yet come when the propriety and the wisdom of this measure will be fully recognized; and, as he believes that Columbia College is destined in the coming centuries to become so comprehensive in the scope of her teaching as to be able to furnish to inquirers after truth the instruction they may desire in whatever branch of human knowledge, he believes also that she will become so catholic in her liberality as to open widely her doors to all inquirers, without distinction either of class or sex.*

JUNE 7, 1880

In the last annual report of the undersigned the question was presented whether, since the conditions no longer forbid, and a growing public opinion seems to approve, the College would not do wisely and well to offer its educational advantages to young women as well as to young men. The question failed to attract the serious attention of the Trustees; but it is believed that it did not altogether fail to excite interest. The object of the renewed mention of it here is to submit certain facts since gathered which show the rapid progress which in recent years the movement in favor of the university education of young women has made, and justify the confidence heretofore expressed as to the future of this question both at home and abroad. The movement in England is more interesting than in our own country, not only because of the recency of its origin there and the rapidity with which it has gathered strength, but because of the extent to which it has enlisted the sympathies of the enlightened classes, and the slight resistance which it has seemed to encounter in quarters where traditional prejudices are commonly presumed to be strongest.

The agitation in favor of the higher education of women in

* Report for 1878-79, pp. 56-68.

England was one of the concomitants and consequences of the remarkable quickening of the public conscience in regard to education in general which commenced about a quarter of a century ago, and has been among the most striking of the social and political phenomena of recent times in that country. It did not at first take the direction, and it is only now beginning to take the direction, of a distinct demand for the admission of women to the universities on equal terms with men; it commenced merely in an outspoken revolt against the superficial and purely ornamental education given to girls in the so-called "finishing schools," which was at the time the best education they could get. It was, therefore, a demand for the creation of schools or colleges for women in which the subjects of instruction should be as substantially valuable and as educationally profitable as those taught to men. The demand was resisted on several grounds: first, that the average female mind is not capable of grasping the more difficult subjects of the university course; second, that the average female constitution is not equal to the strain to which the severity of such a course subjects the physical powers; third, that learning converts women into pedants — vulgarly called "bluestockings" — so that its general prevalence among the sex would destroy the charm of social life; and fourth, that a woman is not a man, and therefore, *ex vi termini*, she should not have a man's education. The advocates of reform did not neglect to reply to these arguments, but they correctly judged that the best refutation which could be given of them would be a refutation taking a practical shape. They therefore established in London, about twenty-five years ago, a school for girls called Queen's College, having, like many of the American collegiate schools, a preparatory department and a collegiate department, in both of which, in intention from the beginning and ultimately in fact, the course of study was made identically the same as that provided in King's College, an institution established more than twenty years before, also in London, for boys. The practical test of the success of this experiment was to be the

ability of the young women trained in it to pass the difficult examinations required for graduation in London University; and it was the ambition and hope of the founders to obtain for its proficientes the same degrees which are awarded by that university, on similar evidences of proficiency, to young men. That ambition has been at length gratified, the London University having since 1878 made no distinction of sex in bestowing its degrees.

London University was founded by royal charter in 1837, to quiet a troublesome agitation on the part of Dissenters and Catholics for the abolition of religious tests at Cambridge, Oxford, and Durham. The first project for its charter was introduced into Parliament by Lord Brougham, as early as 1825. University College, which is its immediate dependent, was opened in 1828. This university does not teach, but examines the candidates prepared for graduation by University College; King's and Queen's Colleges, London; the Independent College and New College, Manchester (and also, till recently, Owens College of the same city, which, however, among the last acts of the Beaconsfield government, was erected into a university itself); Stoneyhurst College, Lancashire; St. Cuthbert's College, Durham; and all other proprietary colleges in the United Kingdom, to the number of thirty or forty. Its examination papers are annually sent under seal to the several dependent colleges, where they are simultaneously opened on the same day and at the same hour; and the answers of the candidates are returned similarly under seal to the examiners in London. These examiners are chosen from among the most distinguished scholars and men of science of the age in Great Britain, and have included such men as Dr. Carpenter, Dr. Hodgson, and Professor Huxley. The present list embraces Professor Jevons, Professor Baynes, Professor Balfour Stewart, Professor Fawcett, and Professor Roscoe.

The advocates of the higher education of women were not quite contented with an experiment like that of Queen's College. They were impressed with the feeling that the educational ad-

vantages offered to the sexes would never be equal until not only the subjects taught should be identical, but the teachers should be — and should be known and acknowledged to be — of equal ability, which was another way of claiming that they should be the same. A step of progress toward this consummation was secured when, about fifteen years ago, what are called the university local examinations were opened at Cambridge to women. These are not examinations for degrees; but, the examiners being university men, their experience in this work naturally predisposed them to look without disfavor on such further efforts to promote the higher education of women as might require their countenance and coöperation. Such an effort was made a year or two later in the proposition to establish, at Girton, in the vicinity of Cambridge, a college for young women, “designed to hold in relation to girls’ schools and home-teaching a position analogous to that occupied by the universities towards the public schools for boys”; and further, “to take such steps as from time to time may be thought most expedient and effectual, to obtain for the students of the college admission to the examinations for degrees of the University of Cambridge, and generally to place the college in connection with that university.” It was further understood, and was a part of the plan, that the immediate instruction should be given in great part by professors, lecturers, and fellows of the university and its colleges, who should visit the new college daily for that purpose. The effort was promptly sustained, no difficulty having been found in securing the assistance of a sufficient number of the gentlemen of the university, and the college went into operation in a building hired for the purpose in October, 1869. Four years later it occupied a building of its own, which it has been necessary since twice successively to enlarge. From the opening of the college, up to June, 1879, eighty-six students had been admitted, of whom forty-two remained in residence during the ensuing (present) year; and of the rest nineteen obtained honors according to the university standard: six in classics, five in mathematics, four in natural sciences, three in moral sciences,

and one in history; and eleven passed the examinations which qualify for the degree of Bachelor of Arts. In the examination for the more recent mathematical tripos of December, 1879, it has been announced that a Girton student ranked as eighth wrangler.

It is only a degree standard or honor standard, however, which is thus secured. The degrees are not granted, nor the honors officially proclaimed, for the reason that the college has not as yet attained the recognized connection to which it aspires with the corporation of Cambridge University. Instead of diplomas, the college gives to its graduates what are called degree certificates. In the tripos examinations of 1879, two students attained second-class honors in natural history, one a third class in mathematics, and one a third class in history. Of the regular instructors and lecturers in Girton College, being at the same time university or college professors, lecturers, tutors, or fellows in Cambridge, there are twelve, and in 1879 fully thirty more gave occasional instruction or special courses in their respective departments.

The success of Girton produced a profound impression in England. It did not satisfy but rather stimulated the zeal of the advocates of the higher education of women. It was soon followed by the formation of a "National Union for the Improvement of Women's Education," embracing among its members many men and women of high distinction, which established an organ for the inculcation of its views, and stimulated the erection of girls' schools for superior instruction in different parts of the kingdom, under the direction and control of a corporation organized for that purpose.

A more important movement having the same general end in view, but tending more directly to secure ultimately to women not merely university education, but education in the university, was the formation, about ten years ago, in the town of Cambridge, of an "Association for Promoting the Higher Education of Women." In the articles of association of this body

it is set forth as its primary object, "to maintain and develop the system of lectures for women instituted in January, 1870, on the subjects of the Cambridge higher local examinations and in other branches of academic study." The president of the association is the distinguished astronomer, Professor John Couch Adams; and in the list of its membership are enrolled most of the professors of the university. Practically, under this association, the same advantages were offered to young women at their homes in Cambridge, as were attainable at Girton with the disadvantage of residing away from home. In one respect, it presently appeared that these advantages were really greater; inasmuch as the professors of the university began very soon and very generally to open their lecture rooms to the young women engaging in study under the auspices of the association. In consequence of this, students began to be attracted to Cambridge from a distance; and for these a modest hall was opened in 1871. But as the members rapidly increased, a building was specially erected for the purpose, sufficiently spacious to accommodate upward of thirty, which, under the name of Newnham Hall, was occupied in 1875. This building also was soon found to be overflowing; and accordingly, in the spring of 1879, it was decided to erect another, in the immediate vicinity of the first, to be called Newnham Hostel, which will be ready for occupation in October of the present year. Though Newnham Hall was established for the accommodation of students coming to Cambridge to take advantage of the educational opportunities created by the Cambridge "association," the council of the hall and the association were two separate and independent organizations. For the better accomplishment of their common object it was resolved, during the year 1879, to unite the two into one under the title of Newnham College.

It is stated in the prospectus of Newnham Hall that "the public lectures of thirty of the university professors are now open to women, and the permission to attend the lectures of the professors of natural science includes the privilege of gaining

access to some of the natural science museums and laboratories." More particularly, a letter recently received from Miss Anne J. Clough, the principal of the college, states as follows:

Our students are allowed to attend most of the university lectures in preparation for the natural sciences tripos, and for the historical tripos. They attend some of the moral science lectures with the men, and some lectures are repeated for the benefit of the women at a different hour.

The women are also allowed to attend some of the classical lectures, and others are repeated.* The women students have not been admitted to any mathematical lectures. They study by means of private help. Some of the Newnham Hall students have been allowed, by the kindness of university friends of the higher education of women, to have the papers on the honor examinations in classics, the mathematics, the moral sciences, history, and the natural sciences. Eighteen of our students have come out in honor, and there have been four first classes in this number and eight second classes. One was placed in the first class by two examiners and in the second by two . . .

These examinations are informal as yet, and should always be so spoken of. But the papers are the same as those given to the men, and are looked over by the same examiners . . .

No official certificates are granted for the tripos examinations, as they are only done as a favor.

Certificates are, however, given for the higher local examinations, which are held under the authority of the university by university examiners. It is plain that matters are converging fast enough toward the point where tripos certificates will be granted to women also, as well as degrees in arts.

Oxford was nearly ten years later than Cambridge in yielding to the steadily growing demand for the university education of women. An association for the promotion of this object, formed on the plan of that of Cambridge, was organized in 1878 or 1879. Its scheme of lectures has been as yet in operation only for a single year. Two halls have been opened for the reception of women students, the Lady Margaret Hall, of which Miss E.

* A gentleman residing in Cambridge writes in a letter of recent date, that "most of the university professors have opened their lecture-rooms to women, and this has been done in a few cases with college lecturers."

Wordsworth is principal, and Somerville Hall, under Miss Madelein Shaw Lefevre. The first is governed by a supervisory board, of which the Rev. Edward Stuart Talbot, Warden of Keble College, is the chairman; and the other by a similar board, under the chairmanship of Samuel William Waite, B. D., President of Trinity College.

As yet the women students in Oxford have not been as freely admitted to the university lectures as in Cambridge. Miss Shaw Lefevre writes that "the university professors have in some cases agreed to admit women to their lectures, but for the present lectures are provided expressly for the students of the association." And Miss Wordsworth observes that "the students attend lectures quite apart from the men, though in some cases the same professor instructs them."

When the instructor is a university professor or lecturer, however, he does not receive the women in his university or college lecture room, but in a building temporarily engaged for that purpose by the association; the only exception to this being the lectures on chemistry, "which, requiring a somewhat elaborate apparatus, are given in the laboratory of Christ Church College, but at different hours from the university lectures."

The two great and venerable universities of England thus illustrate the modern remarkable movement toward the higher education of women in two distinct stages of its progress. In Oxford we see the movement just beginning; in Cambridge it appears in a highly advanced state of transition. If from these we turn to the University of London, established half a century ago in vigorous and indignant protest against the exclusiveness and bigotry of the older institutions, which would deny to half the men of the United Kingdom, to say nothing of the women, the advantages of a liberal education, we shall find the movement in its final stage of accomplished purpose. It is now several years since University College, London, opened its doors freely for the admission of women students; but, though the instruction it gave them was identical with that given to men, it taught them

altogether separately and at different hours. No very long experience was necessary to make it manifest that an arrangement of this kind is exceedingly uneconomical in regard both to time and to labor; or that the reasons which had been supposed to make it necessary or proper were without substantial foundation. By the spontaneous act of the professors themselves, the classes were one after another combined, until at length there is no longer any class in University College in which young women and young men do not receive instruction together.* The university has been as liberal as the college. It examines young women on precisely the same terms as young men, and grants them the same degrees. In the first examination of women by this university for the degree of B.A., held two or three years ago, one of the alumnae of Newnham Hall of the year 1875, who had attained a second-class grade in the classical tripos of Cambridge, and a third class in the mathematical tripos, secured the degree, and gained along with it first-class honors in Latin and English.

This movement in Great Britain receives the approval and encouragement of men in the highest station. At a recent distribution of prizes at the Oxford higher local examinations, the Archbishop of Canterbury expressed his great gratification that opportunities for instruction of the highest order were now opening to all young women who should choose to receive it.

From this cursory review of the extraordinary progress made in this movement in England during the brief period of the past ten years, the conclusion seems to be irresistible that the barriers which have so long closed the British universities against women are destined at no distant period to fall away, and that perhaps it may be given to the present rising generation to see the time when not university education only, but the universities themselves will be freely open to all without distinction of sex.

Of what has taken place or is taking place in our own coun-

* The number of students in University College is very large. Six years ago it embraced more than fifteen hundred, of whom nearly nine hundred were in the Collegiate Department.

try it is not necessary to say much. The facts of progress are too palpable to require comment. One of two points may be mentioned briefly. The number of institutions professing to give university education, and possessing the strictly university power of conferring degrees in Arts, in the United States, is very great; and more than half of them admit students of both sexes impartially. It is common to dispose of this fact summarily by remarking that these colleges are in the West. To a dweller upon Beacon Hill, very possibly the West is Bœotia. But what shall we say when we see growing up, right under the shadow of Beacon Hill itself, a university which admits young women as freely as Oberlin, or Antioch, or Berea? And yet this very thing has happened in Boston within the past ten years. The Boston University numbers for the present year in its College of the Liberal Arts, 127 students, of whom one-third are young women.

The University of Michigan is a Western university. It was founded more than forty years ago. From the beginning, it has been among the most prosperous of American educational institutions; and few have gained a higher or enjoyed a more well-deserved reputation. Michigan University receives women as students, but it had been thirty years in successful operation before it began to do so, and when it began, it did it under the constraint of a public opinion expressed through the legislature and the public journals, which the trustees and the teaching body could not resist, and to which they unwillingly yielded. Ten years have passed since the change of system, and the university, with seventy-five women in the department of arts, and nearly fifty in its medical schools, is now more prosperous than before.

In May, 1879, the Board of Overseers of Harvard University adopted a resolution declaring that in the opinion of that board women ought to be instructed in medicine by Harvard University in its medical school, the president concurring, though he has pronounced himself strongly against the admission of women into the college. Moreover, under the gentle urgency

of some of the ladies of Cambridge, several of whom are members of the families of the professors, a Newnham Hall has grown up within the heart of the university town itself, in which all the instruction is given by university officers. It looks somewhat as if King Priam has allowed the Trojan horse to be admitted within his walls. There are even some of the garrison who, if all things are true that are said, are already disposed to take part with the enemy.*

Upon this topic, the undersigned desires to add but a single

* There can be little doubt that the present arrangements at Harvard University for extending to young women the educational advantages of that institution are regarded by thoughtful professors of the university as only temporary. Either the scheme will be abandoned, which is not probable, or sooner or later instruction will be given to the young women in the same classrooms and at the same hours as to the young men. This opinion has not been generally as publicly expressed as it is apparently entertained. Yet, in an address delivered at the semi-centennial anniversary of the Andover Female Academy, in 1879, Dr. Andrew P. Peabody, the eminent professor of Christian Morals in the university, is reported to have used the following language: "Every professor has assented to the arrangement with the determination to give to the young women the very best of their ability. Whether the young men and young women will meet in the same classroom is a question yet to be answered. I cannot myself believe that the time is very far distant when they will. I can see no reason why young men and young women may not study and recite together as well as talk, sing, and dance together. The reason usually given why they should not is purely a relic of some tradition, the reason for which has been entirely lost to the memory of man. When we think that they are to be together in the building, the most innocent and fitting of all associations would seem to be an association in the very highest pursuits, next to their eternal well-being, in which they can be engaged. There is no reason why association in this matter should be postponed."

And Col. J. W. Higginson, a distinguished alumnus of the college, who, though not a member of its faculty, is a resident of Cambridge and a member of the committee of management of the university school for young women, testifies from personal observation to the state of feeling existing there, as follows: "Some of the Harvard teachers already express a preference for that method (bringing together the young men and young women in the same classes), at least where classes are small and far advanced; and practice will only strengthen this feeling. If a Greek professor has among his pupils three young men who can read Plato at sight, and two young women who can do the same, it will require some very strong resistance to prevent his hearing all five at the same hour and place. In short, the new plan at Harvard is another guaranty that the world moves. It has sincere and generous origin — the honest conviction of the committee that the vast resources of Harvard should be made available for girls, supplemented by the desire of some who are parents that their own daughters should be taught. The sympathy of the professors is the result of the general tendency of the times and, doubtless, of the experiments made elsewhere, especially in Boston University."

further word. The movement in England which it has been endeavored to describe was a movement designed strictly and solely to promote the higher education of women, not regarding the consequent possible presence of men and women in the same schools as anything more than an incident which for its own sake was neither to be sought nor avoided. In England, therefore, the term "coeducation" is scarcely known, for, considered as defining succinctly an object to be aimed at, there has been no need of it, since no such idea existed. The light in which the undersigned has always regarded this subject has been that in which it has been viewed in Great Britain. And therefore it is that, in order that there may not be in the future any such mistake as there appears to have been in the past in regard to what it is precisely that he has advocated and still advocates in reference to this matter, he ventures to quote here an explicit enunciation of his views concerning it, which has heretofore been made public elsewhere, in the following words:

All terms used as party rallying cries or watchwords should be descriptive of the purposes of the parties employing them; or, if description cannot be compressed into a single word, should be significant of the idea which distinctly characterizes the object, purpose, or measure which the party have in view. If they do anything but this, they will probably be misleading; and such, no doubt, is to some extent the case in the present instance. The term "coeducation" conveys to many minds the impression that those who advocate the measure it denotes are laboring for the specific object, and for nothing higher, or better, or more worthy of attainment than the specific object, of bringing young men and young women together in the same schools. But this is so far from being the specific object of this class of educational agitators that it is not in fact an object with them at all. The thing which they do actually propose to themselves is to secure for women opportunities for an educational culture as large and liberal as is provided for the opposite sex. Since the only institutions which afford this culture have hitherto been monopolized by men, and since it is not possible, either morally or economically, to create similar institutions for women exclusively, we make the reasonable demand that women shall be received into the existing institutions. Should this demand be successful, it will be, of course, an incidental consequence that women and men will

receive their education in the same institutions: that is, that co-education will exist as a resultant fact, though not as an object sought for its own sake. Whether this fact will be likely to be advantageous to those who may be affected by it is nothing to the purpose. Most probably it will—several reasons suggest themselves for supposing that it will—but, however that may be, that is not the thing which the advocates of the higher education of women are laboring to secure.*

JUNE 6, 1881

From many quarters, during the last few years, the anxious inquiry has been coming in upon the undersigned: Will not Columbia College do something for the higher education of our girls? Especially has this been the case since the subject was first brought to the attention of the Trustees in the annual report of the undersigned for 1879. Evidence continually presents itself that the interest felt in this question in this community is deep, extensive, and constantly growing. It is, in fact, so generally felt among people of the highest influence and culture in our city that nothing is more rare than to meet an individual who does not avow it. That there has been a great change in popular opinion on this subject, within a period comparatively brief, admits of no question. The reasons for this are not very far to seek.

In the first place, the logic of events has been operating upon many minds with a slowly growing but ultimately irresistible force. Most of the objections which the proposition to extend to young women the advantages of the highest academic culture encountered in the beginning were speculative merely, and were founded upon hypotheses which the unanswerable results of experiment have proved to be baseless. No one is any longer weak enough to argue that women should be denied the educational advantages which universities offer, on the ground of any natural incapacity in the sex to profit by them. Nor is it any longer contended that the physical organization of women is too delicate to permit them with safety to grapple with those

* Report for 1879-80, pp. 64-77.

difficult subjects which are commonly supposed to require for their mastery a severe course of study long protracted. The fallacy of this line of argument has been abundantly exposed by the signal success of Michigan, Cornell, and the Boston Universities, and by the more conspicuously brilliant, if not more conclusive, results of experiment at Girton and Newnham Colleges in England. The results in these latter instances have been more conspicuous, because the young women at the colleges named have been subjected to the same tests of attainment as those presented to the young men of the University of Cambridge, and have sustained themselves with honor. Nor does it appear that their intellectual triumphs have been purchased at any expense to their physical vigor.

The entire abandonment, however, of the position that women ought to be denied the advantages of university education on the ground of either mental or physical inferiority, is made manifest by the noticeable encouragement given to the foundation of colleges or universities for women only. Quite a number of these have come into existence within the past ten or twenty years, some of them munificently endowed and provided with buildings, equipments, and surroundings which make them extremely attractive. The course of study in all of these is identical with that prescribed in the colleges for men. Such institutions, by the very fact of their existence, concede all that the advocates of the higher education of women have ever demanded; and the extent to which they are patronized shows how completely the objections so long and so persistently urged against the feasibility of the proposed reform have lost their force.

But while we may regard the creation of these special institutions as something gained to the cause of the higher education of women, in the respect that they are, in the first place, a visible and frank recognition of the desirability and propriety of the thing itself, and that they constitute, secondly, a provision, to a certain extent, of the means of practically accomplishing the

object desired; yet, when we consider that our country has already some two or three hundred colleges more than are needed for the satisfactory education of all the young men, and young women too, for whom such provision is necessary, we cannot but regret the mistake of that liberality which pours out its treasures in adding so unnecessarily to the number. Without intending the slightest disparagement of the teaching in any of the certainly excellent colleges for women in the country at this time, it is certainly allowable to say of it that it cannot possibly compare with that which is given in those ancient seats of learning where, through a long series of years, have been gradually brought together all the appliances necessary to facilitate research or illustration in every department of knowledge, and where the teachers are men of celebrity universally recognized as authorities in the world of science or letters. The advantage to the learner of having his course of study directed by an instructor who is thoroughly master of his subject is one which is not generally appreciated as it should be. It was a sagacious remark of the illustrious Agassiz that a young man may gain more from coming into contact for a single month with a man of really profound knowledge of any subject, than he can from many months spent under the tutelage of one who himself knows but very little more than that which he attempts to teach. But such is undeniably the very moderate degree of qualification possessed by many of the instructors in our minor colleges, and, considering the small attraction which most of those institutions are able to offer to draw to them superior talent, the probability is that the same thing is true of the larger number.

It is unquestionably the case that a very large proportion of the funds which have been so liberally devoted in our country to the foundation of new colleges, whether for men or for women, has been very unwisely bestowed. There can, of course, be no possible doubt of the sincerity of the benevolence which has prompted such benefactions; but the instances are rare, at least in later years, in which the liberality which has taken this

form has been productive of any real benefit to the public. From careful inquiries made in past years by the undersigned, and heretofore published, it has been demonstrated that the increase in the number of colleges in our country during the last half century has largely outgrown the increase of the population, while the average number of the students attending on them has steadily fallen off.

It is further true that a benefaction designed to advance the interests of the higher education is vastly more effective for good when bestowed on an existing institution already financially strong, than when employed in establishing a new one. For, in the latter case, such a benefaction, unless of very large amount, is chiefly or wholly absorbed in the construction of buildings and the purchase of furniture and other objects which contribute nothing directly to educational efficiency; while the institution thus set on foot is afterward left, with very inadequate resources, to struggle on as best it can in the discharge of its proper work. A similar amount of endowment added, on the other hand, to the funds of an institution already well established and strong, would be immediately and wholly available for purposes of a strictly educational character, such as endowing new chairs of instruction, or making valuable additions to libraries, or to collections in science, art, natural history, or archaeology. To create a new institution equal in resources to one already in existence could at best but double the educational advantages offered to the public; while it would be quite within bounds to say that the same means by which the second of the two is created, if applied to strengthen the first, would increase its usefulness fourfold.

The colleges for women recently established in the state of Massachusetts are, probably, all things considered, the best examples of their kind in the United States; but no thoughtful man can doubt that, had the money expended in their erection been given to Harvard University, with the condition that that institution should do the work which they are doing, the result

would have been far more advantageous to the people of the state. That there is nothing in the circumstances of Harvard University to prevent its doing this work is evident enough without discussion; but if there had ever been any doubt about it, such is entirely removed by the fact that the professors of Harvard University are, of their own voluntary motion, actually doing it upon a limited scale at the present time.

The experiment of the so-called Harvard "Annex" has been, in fact, one of the causes operating to produce the remarkable change in public opinion in regard to the university education of women which has been referred to above. It has shown how baseless were the apprehensions of those who had been accustomed to regard the bringing together of young men and young women, in the same institution and under the same educational tutelage, as a measure fraught with a multitude of nameless evils. It has shown that nothing is more simple than to secure the realization of the advantages of such a measure, accompanied by the most absolute guaranty against all the evils with which the imaginations of doubters have alarmed themselves. The young women of the Harvard Annex do not mingle with the young men of the college, nor attend lectures with them at the same places and hours. Such a separation, while it may be for the present a necessary concession to a deeply seated but probably mistaken notion of the fitness of things, does not deprive female students of the benefit of receiving instruction from the same teachers as the others, or of availing themselves of those important auxiliaries to improvement, the libraries and the collections. There is, as this example shows, nothing impracticable in the idea of carrying on a complete system of university instruction for young people of both sexes in the same institution, and, at the same time, keeping the two classes of students entirely separate. It was upon this plan that University College, London, as mentioned in the last annual report of the undersigned, commenced its experiment; but the obvious disadvantages of imposing upon the professors double work led to the ultimate union of the classes previously

held separate, and more recent experience has shown the change to be on the whole advantageous to both teachers and students. University College is very largely attended. It has a faculty of arts and laws, and a faculty of medicine and science, besides a preparatory school of more than 800 pupils. The entire roll of its students for 1880-81 amounts to 1,955, of whom 789 are under the faculties of arts, laws, and science. Exactly one-third of this latter number, or 262, are women, and in the examinations for honors of which reports have appeared during the year in the public prints, these have been successful in securing their fair proportion.

The example of University College has been undoubtedly one of the causes affecting public opinion in our country favorably to the proposition to open our own colleges to young women. Still more powerful has been the influence in the same direction of the remarkable success of Girton and Newnham Colleges at Cambridge. In a notice of these institutions in the last annual report of the undersigned, the prediction was hazarded that they could not long continue to be excluded from the enjoyment of all those university privileges which have heretofore been monopolized by men; that is to say, that their students would be admitted to compete on an equal footing with those of the regular university colleges for university honors and university degrees. This prediction, in its most important particular, has been since verified even sooner than had been anticipated. Early in 1880, petitions numerously signed began to pour in upon the *senatus academicus* of the university, praying for an enlargement of the university privileges granted to women, and fifteen such petitions in all had been received before the end of November. The first of these, which was received on the eleventh of May, was signed by no fewer than 8,500 persons. The character of the signers of some of these papers was such as to entitle them to special weight, particularly in the case of one which was signed by 123 resident members of the Senate, and of another which received the signatures of 567 non-resident members

of the same body. The prayers of these memorials were not all identical. Some of them confined themselves to asking that the university would formally sanction the admission of women to the examinations which are open to members of the university; others prayed that women might be admitted to the examinations, and to the degrees conferred according to the results of the examinations; and the remainder merely that women might be admitted to the B.A. degree.

These memorials were referred to a syndicate of which the Deputy Vice-Chancellor was chairman, which, on the third of December, made a report to the Senate, recommending that female students who shall have fulfilled the conditions respecting length of residence and standing which members of the university are required to fulfil may be admitted to the Previous Examination and to the Tripos Examinations. Also, that the residence required may be kept at Girton College or at Newnham College, or within the precincts of the university under the regulations of either of these colleges, or of any similar institution within the precincts of the university which may be recognized hereafter by the University by Grace of the Senate. Further, that after each examination, a class list of the female students who have satisfied the examiners shall be published by the examiners at the same time with the class list of members of the university, the standard in each class and the method of arrangement in each class being the same in the two class lists. And that in each class of female students in which the names are arranged in order of merit, the place which each of such students would have occupied in the corresponding class of members of the university should be indicated. It was also recommended that the successful candidates for honors should receive certificates stating the examinations she had passed, and the class and place in class which she had attained in each of such examinations. And finally, that any student who should fail to secure honors, should, if her performance should be adjudged sufficient to justify it, receive a certificate that such student has reached a standard

equivalent to that required from members of the university for the ordinary B.A. degree.

The twenty-fourth of February, 1881, was the day appointed for the consideration of this report, and as the day approached the friends of the measure were not without solicitude. The event proved, however, that their anxieties were without foundation, for when the vote was taken the recommendations of the committee were adopted by a majority of more than ten to one.*

This liberal action of the Senate has placed the women stu-

* While this report is passing through the press the following paragraph has been noticed among the educational news items in the journals of the day. It furnishes additional evidence of the progress which the university education of women is making abroad:

"The University of Durham, England, has adopted a rule admitting women to the public examinations and the degree of Bachelor of Arts. The University of Adelaide, Australia, admitted women to the degrees of Bachelor and Master of Arts some time ago, and the Queen has now ordered that these awards shall be recognized throughout the kingdom as entitled to their full rank and precedence. Three ladies have just been admitted to the Bachelor of Arts degree of London University."

England has four universities of old date: Oxford, Cambridge, London, Durham, and one recently established, Victoria, at Manchester. Two of these, London and Durham, confer upon women degrees in arts; a third, Cambridge, admits women to her honor examinations; at the fourth, Oxford, some of the professors are beginning to admit women to their lectures; and of the fifth, Victoria, the attitude on this subject has not yet been defined, but it can hardly be doubtful that this young institution will rank itself upon the liberal side.

At the same time with the foregoing, the following paragraph relating to the women's colleges at Cambridge has been encountered, and is of interest as illustrating the present tone of the American press as to the question of admitting young women to the privileges of the existing universities:

"Girton and Newnham, the young women's colleges at Cambridge, England, are full of pupils, and the authorities have more applications for admission than they can accept. The students go in carriages to the university lectures. There is not the slightest opposition to the colleges among the professors and students of the university—which is a fact to be reflected upon by those connected with the comparatively youthful American universities which become so alarmed and irritated over every suggestion of admitting women to their privileges. The majority of the ladies who have been educated at the Cambridge colleges have become successful teachers."

The following is found in a notice of the Commencement at our neighboring Rutgers College, New Brunswick, New Jersey, held on the sixteenth of this current June:

"The committee (of Faculty) recommend 'with entire unanimity and great earnestness of conviction that young women of the proper age and fitness be admitted to pursue the studies of this course on the same terms and receive the same degree as young men.'"

dents of Cambridge, for all practical purposes, upon an equal footing with the men. They have the university teaching, the university examinations, the university honors, and university certificates testifying to the proficiency required for the degree of Bachelor of Arts. The diploma is all which remains to be conceded; and after what has been secured, the diploma would have very little additional value. It will no doubt be granted in time; but the directors of the women's colleges are so well satisfied with the results achieved, that they consider what remains as hardly worth contending for. Miss Clough, the Principal of Newnham College, writes, "For my own part I prefer this arrangement to the degrees. As students must reside in Cambridge, the fact that they are *not* given degrees avoids many difficulties."

Now this very substantial triumph of Newnham and Girton Colleges has not been unattended with a very sensible impression upon the public mind in our own country as well as in England. This was made very manifest by the comments of the American press upon the occurrence when the intelligence was first received. One leading journal of our own city remarked:

It is pleasant and novel to read the comments upon the recent action of Cambridge admitting women to fuller privileges. It has already had a remarkable effect in liberalizing opinion. In the past ten years, there has been a marvellous advance in popular ideas concerning women's education. Those who have long supported her claims to intellectual growth may well be permitted a little sarcasm over the blind prejudices of the past.

The same tone distinguishes all the notices of this important incident which have been encountered in the public journals. In no instance which has fallen under observation has there been an expression of disapproval—still less of what might ten years ago have been very possible, contempt.

The press itself, indeed, which here records the growing liberalization of public opinion, has not been the least powerful of the influences contributing to promote this gratifying change

It is a noteworthy and very encouraging fact that all the most widely circulated public journals of the country, without a known exception, are in sympathy with the movement in favor of the higher education of women. Few of them, it is true, engage in an active propaganda on the subject, but all of them are ready, as occasion arises, with their words of cheer for those who are so engaged, and perhaps for that very reason what they do say has all the more effect upon the public mind. By their attitude as thus displayed, if not by any labored argument, they powerfully impress, and lend to the cause the substantial support which attaches to their weight of character. A few dispassionate words occasionally dropped upon any widely mooted question, by a disinterested and respected authority, are often more effective in determining public opinion than volumes of eloquence from the lips of the enthusiasts who are supposed to see but one side. And it is by such words of favorable notice, coming, not from here and there one, but from all the influential journals of the country, that the movement in favor of opening the universities to women as well as to men has been so commended to the popular approbation that its propriety has almost ceased to be questioned in any quarter, while it is continually finding new and active advocates among those who had been previously indifferent or hostile.

The time seems, therefore, to have fully come when Columbia College should feel herself urged by every motive of expediency or duty to do her part in carrying forward this noble and beneficent work. The public mind is prepared for it; a large number — it is believed a majority — of our most enlightened fellow citizens eagerly demand it; the members of our Faculty without exception favor it; our circumstances are such as to make it easily practicable.

If in any minds there are still objections to the system which elsewhere exists, under which young women are withdrawn from their homes to be gathered together in numbers in academic boarding houses, such objections can have no application here,

since the young women received as students at Columbia College will still reside, as the young men do now, under their parents' roofs, and will continue to be surrounded by all the beneficial influences of domestic society. If there are any who except to the arrangement under which, as at University College, London, and at the Boston, Cornell, and Michigan Universities in this country, young men and young women assemble to receive instruction in the same classrooms and at the same hours, their scruples may be removed by adopting here the plan of the Harvard "Annex," and holding the exercises for the two classes of student separately. The Faculty of the College are ready for either plan, although the second would impose upon them a very unnecessary increase of labor. Indeed, they are more than ready, for there can be no doubt that they are prepared, and are quite disposed, if necessary, to organize a scheme for the instruction of women in all the subjects of the college course, independently altogether of the Board of Trustees; and that they would do so, could a committee of citizens be found, here as at Cambridge, willing to attend to the necessary business arrangements, and to provide rooms for the exercises near the College, should the use of the College classrooms be denied them for the purpose. Such a scheme has been a subject of conversation among members of the Faculty on many occasions during the past year; and it may probably be carried into effect at no distant day, unless the occasion for it shall cease to exist, in consequence of the admission of women as students to the College itself.

When this subject was first brought to the notice of the Trustees, in 1879, it failed to be taken into serious consideration; yet it is known that the proposition was not unfavorably regarded by some members of the Board, and it is not believed that any were unalterably opposed to it on principle. Whatever objections may have been entertained in regard to it are believed to have related to matters of detail, such as the construction of our buildings, and the capacity of our lecture rooms, rather

than to considerations of a more serious nature. It is believed, however, and it can be easily proved, that all such supposed difficulties are imaginary, and that the proposed measure can be carried into effect without the slightest inconvenience.

In the first mention of the subject, in the report of the year above named, the opinion was expressed that, even in case of an immediately favorable action by the Trustees, some years must elapse before any considerable number of young women would be prepared to take advantage of the opportunities thus opened to them. Such an opinion would not be justified by the state of things existing at the present time. The undersigned has reason to believe that within the past two years the number of young women who have turned their attention to classical studies has greatly increased, and that there are now not a few of suitable age in our city who are so well up in their Latin and Greek that they could probably pass without difficulty the entrance examinations. It is believed, therefore, that the consequence of opening the College to the admission of women would be an early and very material increase in the number of our students, which would be attended with an augmentation of the revenue from tuition fees, amounting, in the course of about four years, to not less than \$10,000 and probably more than \$15,000, per annum.

The measure proposed is therefore recommended not only by the consideration that it is right in itself and that it will greatly increase the usefulness of the College, but also because it will be advantageous financially. And it has the further recommendation that, being in the direction of manifest destiny, to accept it promptly would be a graceful act; while to lag behind the spirit of the age in regard to it, would be only to be coerced after all into accepting it at last, ungracefully.

In conclusion on this subject, the undersigned can only repeat the conviction, expressed in his former report, that the question here considered is in this institution only a question of time; and that, whatever may happen this year or the next, Columbia

College will yet open her doors widely enough to receive all earnest and honest seekers after knowledge, without any distinction of class or sex.*

MAY 1, 1882

In former annual reports the undersigned has expressed to the Trustees his views of the wisdom and the justice of extending the educational privileges of the College to young women as well as to young men. It is not his intention to reopen the argument at this time, but it is due to consistency to say that his convictions on this subject remain unchanged, or rather that they have been confirmed and strengthened by observation of the results of the experience of other institutions in our own country and abroad, which have opened their doors impartially to students of both sexes, and of the rapid and extraordinary change of sentiment in regard to this question which has been going on in recent years among our fellow citizens. This has been noticeable, not in New York only, but throughout the country. Those of the colleges of our country, and of our own section of the country, which have been for some years engaged in testing by experiment the feasibility of this plan of education, though some of them, like the University of Michigan, accepted it reluctantly and with serious misgivings, express themselves, from year to year, more and more content with the results—results which they have found to be not only reassuring but gratifying. Reports from England inform us that the plan is meeting the best expectations of its friends at Cambridge and in London. The fifteen universities of Italy are accessible to men and women equally, and the same thing is said to be true of the universities of Russia.

The Executive Committee of the University Convocation, a gathering annually held at Albany under the auspices of the Regents of the University of the State, have placed the question of the opening of the colleges to women among the topics

* Report for 1880-81, pp. 72-85.

to be discussed at the ensuing meeting of the Convocation in July next, and have extended to the undersigned an invitation to be present and to participate in the discussion. The Secretary of the Board of Regents, Dr. David Murray, himself an educator of large experience, and a recognized authority on all educational questions, in communicating the invitation, remarks that "this is a subject in which all the colleges of New York are deeply interested," showing that it has been agitating opinions extensively among those who direct our system of superior education.

In the city of New York no one can have failed to remark the growth of interest in the subject during the past year. The conviction of the justice and expediency of offering equal educational advantages — and more than that, the same identical educational advantages — to the youth of both sexes, has been rapidly diffusing itself among all classes of our fellow citizens, and has penetrated at length profoundly the most highly cultivated and refined circles of New York society. A conviction so widely extended and entertained by so many among the thoughtful and judicious who, in any community, are the recognized leaders of public opinion, cannot, whatever may be the subject to which it relates, but have a substantial foundation in reason. And such an opinion, prevalent among persons so worthy of consideration for character and social position, cannot fail to command respect, and, when it relates to a matter of public policy, cannot fail in the end to accomplish some practical results. Columbia College may not, in our own day, be opened to the admission of women; but that it will be so in that better coming time which awaits another generation appears to the undersigned to be as certain as anything yet beneath the veil of the future can be.*

* Report for 1881-82, pp. 69-71.

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PART THREE

DEVELOPMENT OF PROFESSIONAL EDUCATION

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XIII

NEED OF PROFESSIONAL TRAINING

JUNE 4, 1866

IT is unnecessary, and it would protract this report to an unreasonable length, to go into a detail of the various modes in which the College will, in the progress of time, be compelled to enlarge the scope of its teaching. One or two important public wants may be suggested, which it ought to aim as early as possible to supply.

With the School of Mines may easily be associated, and that perhaps at no distant day, a school of civil engineering.

Moreover, considering the position of New York among the great commercial seaports of the world, the absence here of a working astronomical observatory and a school of practical astronomy, is a standing discredit to our people, which the College ought to aim to remedy.

Eighteen years ago, the predecessor of the undersigned, in his inaugural address, recommended in very strong terms the establishment of a school of commerce. The desirability of such a school has certainly not since been diminished by any decline of the commercial prosperity of the city.

There is no country in the world in which building, and building in a style of costly magnificence, is more constantly going on than in this; and yet in the whole country there does not exist today a school of scientific architecture.

The many applications of mechanics, physics, and chemistry, to the arts, to agriculture, and to machinery, suggest other and large educational needs.

Natural history, in its various departments, for its interest and for its uses, suggests still other.

And without attempting to be exhaustive, it may be added that political and civil history, philosophy, and philology, require provisions for their exposition and culture which nowhere exist, as yet, on this side of the Atlantic.

These and other analogous educational wants of the country it is the obvious mission and the manifest destiny of Columbia College to supply. She will not supply them without being largely, very largely, helped toward the accomplishment of the vast work, by the enlightened men whose intelligence shall enable them to appreciate its importance, whose public spirit shall be equal to this great exigency, and whose means shall allow them to indulge their generous impulses. She will advance, therefore, toward the fulfillment of her mission, only by slow degrees; but she should always advance. And no single important measure affecting her future should be ventured upon by those who have in their hands the charge of her affairs, without a distinct recognition of the reality of this mission, and a careful examination of the bearings of the proposed measure upon it.*

* Report for 1865-66, pp. 29-31.

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XIV

EDUCATION AS A SCIENCE

JUNE 6, 1881

TO one who thoughtfully inspects the varied and comprehensive program of subjects which all American colleges profess to teach, there cannot but occasionally occur a sense of a singular omission. Among all this great multitude of educational institutions, not one seems to have made education itself the subject of investigation, or to have regarded instruction in the theory or practice of education as a part of its business. This is not because philosophy is incapable of throwing a salutary light upon the processes by which the powers of the human intellect may be best unfolded, or upon the form and method in which given subjects of knowledge may be most successfully presented; nor is it because the philosophy of education is so simple that its principles may be assumed to be intuitively known. Yet the latter is the view which our higher educational institutions of learning generally seem in their practice to accept; since, in the appointment of their teachers, no question is ever raised as to whether or not the candidate has himself been educated to teach. No body of professional men is in position to exert a more powerful influence upon the destinies of the race than that of educators; and yet no body of men are left more completely to accident for the attainment of the qualifications which may properly fit them for the discharge of their important functions. It is true that we have normal schools, of which the professed purpose is to train young persons in the art of teaching, but the instruction there given is little more than in routine methods of practice, and the teachers produced are not of high grade. Education is nowhere treated as a science, and nowhere is there an attempt made to expound its true philosophy. In this respect we are far behind Continental Europe. In the leading universities of Germany, systematic courses of lectures have long been given upon pedagogics, or the science of education, in its

history, its theory, and its practice; and some of our own ablest educators have had the advantage of listening to such instruction, and of so preparing themselves for the better performance of their work at home. Great Britain has been later in the field. Up to about four or five years ago, as little attention was paid to the science of education in England and Scotland as in our own country. But, in the year 1876, there was established in the University of Edinburgh a chair of the history, theory, and practice of education, and another having the same title in the University of St. Andrews. More recently there has been created at Cambridge, England, an organization called the Teachers' Training Syndicate, under the auspices of which have been instituted lectures on pedagogy to be continued throughout the academic year, the first course under this arrangement having been commenced in October, 1879. In the introductory lecture of this course, the speaker, Professor R. H. Quick, refers to the singular neglect under which this important subject has so long lain, even at one of the most distinguished centers and fountains of high learning in the modern world — a fact which he illustrates with a certain humor partaking of the satirical. He supposes a new royal commission to have been appointed to investigate the condition of the universities, and that by some means or other the commissioners selected are intelligent persons from another planet. These commissioners have been informed by Dr. Newman and other high authorities that, in a true university, every branch of human knowledge should be taught. They have before them as a witness a distinguished professor of Cambridge armed with the university calendar. They have learned that if Cambridge does not completely fill out the university idea as they have conceived it, still that every subject of really substantial importance relating to God and nature, and to man in his relations to both, is there entrusted to teachers of eminence, who lay before the students the results of the latest investigations. The chairman is supposed to commence questioning the witness as follows: "We hear that the subjects not cared for by the

university are unimportant. What do you mean by unimportant?" The witness hesitates, but answers that he is not there to give opinions, but to state facts. The chairman rejoins that it can hardly be matter of opinion whether any subject is unimportant which seriously affects the welfare of the great mass of mankind; and to this the witness assents. The chairman then says, "We understand, then, that all subjects bearing on the well being of the human race receive attention in the university," and to this the witness responds by reading copious extracts from the calendar, showing how thoroughly a knowledge of the languages and institutions of past ages is taught in the university, and how even the results of investigations now going on into the state of man in prehistoric times are faithfully given. The commission is deeply impressed, and the chairman continues: "All this is profoundly interesting. Without a knowledge of man as he has been, we cannot properly understand man as he is. Tell us, now, what you teach of man as he is, as he should be, and as he may become." The witness reads further from the calendar something about political economy, which shows man as he is, and about moral philosophy, which shows what he should be; but explains that our leading sciences concern themselves very little about human beings unless they are ill and we want to cure them, or unless they fall out and we want to pacify them, or unless they commit crimes and we want to punish them. The chairman responds:

Yes, that we understand, the science is useful that tells us how, when men go wrong, to get them right again. But there is another more important science which you tell us nothing about, the science which shows how to make men grow up right—which teaches the order in which their faculties develop, and the best means of promoting their healthy development, and directing them to their proper work.

The witness looks puzzled, and a member of the commission comes to his aid, remarking, "We mean, of course, the science of education." The witness abruptly throws down his book and

says bluntly, "There is not a word about it in the calendar." And here the *Daily Telegraph* reporter inserts in brackets the word [*sensation*]. The discovery of so singular an omission in the program of a leading institution of learning, among a people claiming to stand in the foremost rank of human enlightenment, could not but justify sensation and afford a proper occasion for surprise. Nor is this surprise diminished when it is perceived that the neglect of the science of education in educational institutions is not owing to an absence of a proper sense of the value of the science on the part of individual educators. There exists in the English language a vast educational literature, built up by contributions from many of the profoundest thinkers and ablest teachers whom this country or Great Britain has produced, out of which might be elaborated, by careful collation and digest, an admirable compound of systematic pedagogics. But in the form in which these actually exist, many of them covering only special topics, and none of them written with reference to any common method, or connected with the others by any obvious relation, they furnish not so much a science of education, as evidence that the need of such a science is universally recognized.

The general recognition of the fact that there is a science of education becomes more strikingly obvious when we notice the efforts which are made by teachers, through voluntary associations, to aid each other by discussing educational questions, and comparing the results of experience in periodical conventions. The papers produced on such occasions are sometimes able, but it is more frequently the case that the educational literature which owes its origin to a stimulus of this kind is desultory and weak. In every numerously attended body the number of those entitled to speak with authority is always a minority; yet all are equally entitled to speak, though they may not necessarily speak to edification. It can hardly be doubted, however, that teachers' conventions do accomplish something in the way of giving to teachers clearer views of their profession, and thus improving the character of their work.

The educational system of the country will, however, never be what it ought to be until education is made a profession into which no one shall be permitted to enter without having first passed through such a course of preliminary training as is required for admission to the practice of other professions, and such a state of things cannot be possible until instrumentalities exist for regularly training men to this profession. Such facilities can only be secured by the creation, in some of our existing institutions for the higher education of the young, of chairs of instruction devoted to this express object. There is no possible way in which the usefulness of any college could be more immediately or more largely increased than by establishing a chair of this kind, or by creating a school which might be called a school of pedagogics, designed to prepare teachers for their work. No American college has as yet attempted this, but it was a feature embodied in the plan, never realized, of a university projected more than twenty years ago, to be established in Tennessee under the name of the University of the South; and it is not without satisfaction that the undersigned recalls the fact that it was adopted in that scheme at his own suggestion. The plan of the institution referred to approached more nearly to the ideal of a true and complete university than any other that was ever projected upon this continent. It left no branch of human science unprovided for, and its prospective resources were so large as to promise to enable it to maintain all its departments in vigorous operation, without any need of relying on the uncertain revenues to be derived from fees for tuition. Its scheme had been matured, its site chosen, the cornerstone of its principal edifice had been laid, when the desolating wave of civil war which swept over the land in 1861 extinguished its early promise, and, by destroying the springs of its vitality, made its revival impossible after the deluge was at length overpast.

It appears to the undersigned that the time has come when Columbia College may very properly make an attempt to supply the serious defect in the educational system of our country which

has here been indicated. A department embracing the history, theory, and practice of education, though it might not contribute largely to the course of undergraduate instruction, would bring the College more directly, and to more effective purpose, into contact with the outside world than almost any other. It could not fail to enlist the interest, and, with a judicious arrangement of hours, to command the attendance, of every teacher in this great city and its vicinity, and it would soon become so attractive as to draw many more from a distance.

In order to insure to a scheme like this the highest degree of success, it would be advisable, in the beginning, not to create a chair to be filled by a single individual, though that has been the plan adopted in the Scottish universities; but to engage a number of distinguished educators to give lectures upon particular topics according to a prearranged scheme, holding these lectures at night, and only once or twice a week during the academic year. The history of education alone would afford material for a large number of such lectures which would be full of interest and instruction. The importance of an acquaintance with this history on the part of every man who enters this profession with a desire to be useful in it, is strongly insisted on by the Honorable Henry Barnard, editor of the *American Journal of Education*, and formerly United States Commissioner of Education at Washington, who maintains that there is no department of human existence in which preliminary historical knowledge is so next to indispensable as in this. He says:

By just as much as young teachers are ardently interested, by just as much as their minds are full of their occupation and fruitful in suggestions of principles and methods for prosecuting it, by just so much are they the more liable to re-invent modes and ideas which have been tried and given up before, and thus to waste precious months and years even, in pursuing and detecting errors which they would have entirely escaped, had they learned the lessons left them by their predecessors.

The history of education has been admirably set forth in the comprehensive works of von Raumer and Schmidt in German,

and in that of Gabriel Compayré in French; but with the exception of the collections of Henry Barnard, embracing the translations from von Raumer and others, entitled "German Teachers and Educators," originally published in the *Journal of Education*, we have nothing of a corresponding character in the English language. Professor Meiklejohn, of the chair of education at St. Andrews, discusses under this head the notions regarding education and the processes employed in its practice which have prevailed among all nations called civilized, or which, in other words, have endeavored to found forms of society favorable to the growth of what is best in man. He reviews, therefore, the educational ideas prevalent early among Eastern nations, among the Persians, Jews, Greeks, Romans, and among the Christians of the primitive and mediaeval periods, and, since the fifteenth century, the systems of the Jesuits and of the Reformers. He gathers and presents in substance the educational views of such eminent authorities as Bacon, Selden, Locke, Jean Paul, Goethe, and Herbert Spencer; and considers and compares the ideas of the originators of practical processes like Comenius, Pestalozzi, Ratich, Jacotot, Diesterweg, Fröbel; concluding with a critical examination of existing national systems in Germany, France, England, the United States, and other countries.

The historical part of the course given by Professor Laurie at Edinburgh covers much the same ground as the foregoing, beginning with China and ending with the United States. He includes in his survey early education among the Semitic races of the Mesopotamian basin and among the ancient Egyptians, gives an analysis of the educational views of Plato and Aristotle, an exposition of the *Institutions* of Quintilian, an account of the labors of Erasmus, Colet, Luther, Melancthon, and Sturm, an exposition of *The Scholemaster* of Roger Ascham, and an analysis of the didactics of Comenius and of the educational views of Milton. Of more recent writers, he dwells upon Dr. Arnold and Herbert Spencer, and of recent originators of systems, upon Jacotot, Bell, Lancaster, and Fröbel. He concludes with

the history and state of education among English-speaking peoples.

The theory of education as given in these university courses embraces an inquiry into the psychology of the growing mind, a summary of the knowledge gathered by observation in regard to this, an attempt to estimate the mode, rate, and kind of growth by experiment; and an inquiry into the relation of various kinds of knowledge to the mind, and the influence of certain thoughts, emotions, and sets of circumstances upon the character. The growth of the power of the senses, the memory, the understanding, the reason, the will, the imagination, the social feelings are next made subjects of examination. The relation of the religious, moral, and intellectual sides of human nature to each other are discussed, and the best means of building up a sound understanding and the formation of a just habit of action are inquired into.

The portion of these didactic courses which relates to practice is devoted to an examination of all the processes at present going on in the schools of the country or the world, the relation of these processes to the growth of mind, and their value considered as means to an end. These processes are necessarily in great degree dependent upon the subject taught. Thus in regard to languages, the lecturer considers what are the most effectual means of enabling the learner to master them, what are the mental habits to be created, and what the difficulties to be overcome, whether these be inherent in the language itself, or whether they arise out of the circumstances under which the instruction is given; and how these difficulties may be reduced to a minimum. As the object aimed at in teaching the modern languages is not the same which is proposed when the ancient are the subject of instruction, due account is taken of this difference, with the modification it may suggest of the methods employed. In regard to science, and especially the sciences of observation, the methods which experience — in this department of education the best guide — has shown to be most advantageous are explained and illustrated.

The conditions under which a love of elegant letters may be most effectually awakened are also inquired into. The different special subjects usually taught in schools — such as grammar, geography, history, composition — are finally considered in detail, and the order in which their several parts may be most judiciously presented to the learner is pointed out. The adaptation of particular subjects or parts of subjects to particular ages is discussed; and the important question, how much should be done by the teacher and how much must be done by the pupil in order that he may profit by the exercise, is carefully considered. The relations of the various subjects of study to the process of mental development are investigated, that is to say, it is inquired what faculties each particular subject is best fitted to call into exercise, stimulate, and strengthen. And finally the characteristics of the best books on the several subjects are distinguished, and the value of textbooks as helps to the educational process is discussed and weighed.

Out of a field so extensive and so fruitful as this, it might be practicable to select the topics of twenty or thirty lectures to be given at Columbia College on certain evenings, at first not more frequently than once a week, to a class formed of graduates and undergraduates, but mainly of teachers belonging to the city of New York. The value and usefulness of the course would mainly depend on securing a considerable attendance of these last. In order to be ascertained of this, it would be advisable to circulate a program showing the subjects of the successive lectures of the course, with the names of the lecturers; and to issue tickets at a merely nominal rate entitling the holders to attend the entire course, with others admitting to single lectures, the course only to be commenced after at least one hundred names have been subscribed.

It is not to be supposed that the imposition of an admission fee would go very far toward maintaining the course of lectures here proposed. It is not with such a view that it is suggested. Indeed, if an attendance in sufficient numbers and of the right

persons to a course entirely free could be certainly depended on, there could be no objection to dispensing with any charge for admission. Experience seems to prove, however, that men do not appreciate what costs them nothing, no matter how great may be its real value; and any course of lectures which promises to furnish solid instruction only, and does not engage in the least to amuse, is more likely to attract when it has to be paid for than when it can be heard for nothing.

It would be attended with some expense, no doubt, to secure the coöperation of the master minds of our country in the execution of the splendid scheme here proposed; but the whole could be accomplished at a cost considerably below the amount of one year's salary of a full professor's chair; while the consequent benefit to the institution in the increased luster of its reputation, and the enhanced appreciation of its usefulness in the popular mind, would be beyond all computation. An additional advantage would follow in the fact that the series of lectures thus produced would form a valuable contribution to the literature of education, which, by publication in a volume, would become a standard work. Such a volume could not fail to be in large demand, and wherever it should circulate it would carry with it the name and would help to reinforce the prestige of Columbia College.

The successful accomplishment of the scheme here proposed would naturally open the way to the establishment in our College of a permanent chair of education, and we should thus enter upon a new field of usefulness not inferior in importance to any we have heretofore occupied. In doing this we should, for a third time, have taken a new departure, and a step in advance of all our contemporaries and competitors. We have created the first and only successful School of Mines upon the continent; and we have established the only school in which a young man can obtain such a training as may properly fit him for the duties of political life. If into a great national industry, which has heretofore been prosecuted by ignorant and wasteful methods, we

have introduced economy and intelligence, and if in a public service which has been worse than ignorant and wasteful, we have, by the instrumentalities we have created, laid the foundation for a coming substantial reform, we have in neither of these ways done more to advance the welfare of our own people, or to benefit the world, than we shall have done when we shall have made it possible that those to whose hands is to be entrusted the education of each rising generation shall be themselves properly educated to their own responsible profession.

The idea of making the philosophy of education a part of our university teaching, and of properly educating men to the business of education, is not one of recent occurrence with the undersigned. It was among the objects particularly pointed out by him in the address in which, seventeen years ago, he inaugurated his connection with the College, as objects which in the future it would become the duty as it would be the privilege of Columbia College to accomplish. The time seems to be at length ripe for the discharge of that duty. Should the opportunity not be improved by us it will doubtless soon be seized by some competitor, and the honorable precedence which is now within our reach will be snatched from us.

We should make a great mistake if we should regard the inculcation, from a university chair, of the philosophical principles which ought to guide in the framing of educational systems, as a matter of merely speculative interest. It involves, on the other hand, consequences of the highest practical importance. The actual system universally prevalent in our country at the present time is marked by faults, not to say absurdities, of serious gravity, which a discussion of the true principles of educational philosophy could not fail to detect, and which need only to be exposed to be corrected. Unfortunately the most pernicious of these errors is one of which the injurious results are experienced by that portion of the young who, being destined from childhood to enjoy the benefits of what is called a liberal education, are undergoing what is called a preparation for college. For

These there is laid down a stereotyped course of study, consisting mainly in a very thorough drill in the elements of the Latin and Greek grammars, and in the perusal of large portions of works of classical antiquity of high literary character. The process commences with most at the early age of eight or ten, and with many, as was the case with the undersigned, as early as six. It is hardly necessary to say that, at this period of mental and physical immaturity, the abstractions of grammar are entirely above the comprehension of the infantile intellect. The child who is told that "a substantive or noun is the name of anything that exists or of which we have any notion," or that "prepositions serve to connect words and to show the relation between them," would vainly strive to gather a distinct concept from these bewildering propositions; and in point of fact he does not strive to do so. He merely, at the cost of severe and irksome effort, lays away these verbal jingles in his memory, along with cords of equally useless rubbish forced upon him in cruel disregard of his helplessness, or of the unfitness of such intellectual food for his feeble powers of digestion. The theory is that the nice logical distinctions which are embodied in grammatical definitions and the complicated relations of words and clauses which find expression in the intricacies of syntactical rule constitute the material for a salutary and strengthening exercise of the reflective faculties: comparison, analysis, judgment, and the rest. The fact is that they do not exercise those faculties at all, since in failing to reach the understanding they fail of the first essential to such a result. Nor is the case much better when we pass from language considered only as an instrument to the literature of which language is the form. The song of Virgil and the eloquence of Cicero are almost as far above the capacity of the juvenile reader as the logical niceties of grammar are beyond his mental grasp. The consequence is that some three or four years of the most impressible, the most interesting, and the most valuable period in the life of a boy whose lot, in an educational point of view, is commonly supposed to be especially enviable,

is filled up with an unbroken and dreary monotony of meaningless sounds, which leaves behind it no impression save that which may be produced upon his jaded memory.

Now, if we consider the case of this boy in the light thrown upon it by the study of psychology, we shall be presently aware that we have begun his education at the wrong end. It is at once illogical and unnatural to attempt to stimulate into activity the reflective faculties of his intellect before he is yet in possession of any considerable stock of knowledge on which to employ them. The comparison of qualities, the study of relations, the combination of different ideas, and the deducing of conclusions are processes which require as their indispensable antecedent condition a considerable acquaintance with the objects of thought themselves on which such processes must necessarily be founded. Moreover, if we will observe the order in which the intellectual faculties spontaneously unfold themselves, when their natural accomplishment is left undisturbed by influences from without, we shall discover that those are earliest awake whose function is to gather the knowledge of outward things. The powers of observation, or the perceptive faculties, as they are called, are in the child in the highest state of activity from the earliest period of conscious existence. The restless curiosity of children is proverbial. Everything that is new is interesting to them, and they are never satisfied till they understand it. Since, also, at their time of life, most things which they encounter are new, there is no end of the inquiries with which they constantly assail those who are older, and whom they presume to know more than themselves. The conclusion, therefore, which theory and observed facts equally justify and force upon us is that the educational process should commence with the culture of the perceptive powers, and that the earliest years of the child's life should be devoted to the business of storing him, or permitting him to store himself, with facts of useful knowledge. The studies assigned to him, if studies in the ordinary sense should be assigned to him at all, should be such as to minister

to his insatiable desire for knowledge: that is, to keep alive and not to repress those eager faculties which are constantly reaching out to seize upon and assimilate all that is novel in the outward and visible world. A judicious course of culture of such a character, pursued at this early period of life, whether with or without the aid of books, will impart to the subject of it, not only an immense fund of valuable and accurate knowledge which otherwise would be acquired later with labor infinitely greater, or perhaps not acquired at all, but also a habit and a power of exact observation which no amount of labor later in life would be adequate to secure, but which to their possessor are possessions of priceless value.

These acquisitions the actual course of mental training usually pursued with boys in our preparatory schools does nothing whatever to cultivate. On the other hand, it tends to prevent their attainment. By immuring an unhappy lad within the four blank walls of a schoolroom, and constraining him to fasten his thoughts upon a series of abstractions to which the power of his intelligence is unequal, we subject his perspective faculties to a long-continued and unnatural inaction, by which, if they are not completely paralyzed, they are certainly dwarfed, and prevented forever from attaining even that degree of development which nature alone, unassisted by educational helps, would have given them. The same lad in the outdoor air, with his attention intelligently directed to the thousand imperfectly understood objects of interest surrounding him on every side, would rapidly gather an immense store of valuable facts of knowledge which would be serviceable to him all his life; and, better than that, would acquire those powers of quick discernment, accurate judgment, and prompt decision, which form the most important elements of the intellectual character.

But if the system commonly pursued in the mental training of our boys, during the period of their preparation for entrance upon the college course, were not condemned for its violation of every sound principle of educational philosophy, it could not

escape condemnation when we come to consider its results. Young lads are usually kept in the preparatory schools for at least three years—many are there more than twice as long. They will by that time be found to have committed pretty thoroughly to memory the definitions and rules of their Latin and Greek grammars, without very clearly understanding the words in which they are expressed, and to have pretty well mastered the various inflections, regular and irregular, of nouns, adjectives, and verbs; and they will also have succeeded in reading, by dint of incessant resort to lexicons, a few hundred pages of some selected Latin and Greek authors. But none of them will have any proper knowledge of the Latin and Greek languages, or will be able to read with facility Latin or Greek books taken up at random, even the very books and the parts of the books which they have read before. Yet, throughout all their school years, their time, their attention, and their almost interminable labor are given to the study of those languages only. It is true that, in the examinations for admission to college, some slight knowledge of a few other subjects is required, but it is universally known that the substantial requisitions are Latin and Greek, and that when these are satisfactory, other matters are easily arranged. Now it is perfectly certain that no person of ordinary capacity and of tolerably mature intellect could devote his exclusive attention for four or five years to the study of any language whatever, without in the end being able to read it, if not to speak it, fluently. The fact that this never happens with a juvenile schoolboy, even after seven or eight years of the most careful tuition in the best preparatory schools, is sufficient evidence that there is a grave fault somewhere; and the fault is very clearly, as has just been shown, in the fact that the subject is presented prematurely, and therefore ineffectually, to a mind which demands an aliment of a very different nature.

But the evil does not end with the imperfect results of this species of preparatory study as tested by the amount of knowledge which it secures. The habits of study acquired in the school,

in which the memory is mainly depended on at the expense of the understanding, are carried into college, and operate throughout the educational course as a drag upon substantial progress. The consequence is that it continues to be generally no less true of our graduates than it is of boys leaving school that they are quite incapable of taking up and reading fluently books which they have not read before, in either of the learned languages, nor in many cases even books which have formed the subjects of their daily lessons in their latest college years. It is somewhat surprising that the singular inadequacy of the results obtained in the large majority of cases, after so great an expenditure of time and wearying labor, has not long since attracted attention and challenged inquiry into its cause. Its cause is unquestionably to be found in the fact that the study of the dead languages is usually forced upon lads at an age when their mental development is not sufficiently advanced to enable them to pursue it intelligently; and, more than that, that it is made to crowd out other studies which the mind, in its immature state, finds congenial, and even required, for the promotion of its healthful growth. No lad of less than fourteen or fifteen years of age is capable of taking up with advantage the study of a language so artificial in its structure as the Latin or the Greek; still less when the method of presentation, as is the case in all our schools, inverts the natural order, and substitutes synthesis for analysis. And even an age so advanced as fourteen is too early, unless the previous years have been filled up with a judicious culture, in which the boy has been required to learn nothing which he could not understand, and has been thus led into forming habits of depending on his understanding and not on his memory alone for what he acquires. After an adequate period of such earlier culture, there is no sort of doubt that the average boy will be able to acquire, in two years at the outside, a far more satisfactory acquaintance with Latin and Greek than is at present the outcome of five or six, commencing from a point as many years earlier.

The subjects which are best adapted to form the material of this previous culture are those which concern the objects and phenomena of the natural world, beginning with plants, animals, and the materials of which the earth is composed — that is to say, with the sciences of botany, geology, and mineralogy. These, from the endless variety of beautiful and curious objects which they present, afford an inexhaustible source of gratification and surprise. They arouse curiosity and keep it constantly awake; they satisfy the eager desire to know; they stimulate the perceptive powers into constant activity, and sharpen the power of quick and accurate observation. As time goes on, they afford to the reflective faculties such gentle exercise as is suitable to their nascent condition, as when, for instance, distinctions of species are recognized by the comparison of individual objects as to their resemblance or differences, or when, from the study of the qualities of objects, the uses may be discovered to which they are applicable. That these things will interest children of very tender years has been tested abundantly by experiment, and is probably with most persons a certainty founded on their personal recollection. The fact that they do so interest them is nature's testimony to the truth that they constitute the intellectual aliment which the infant mind requires for its sustenance and healthy growth.

To the subjects here specified, which may be called the sciences of classification, may also very fitly be added those which depend on observation and experiment, such as chemistry and the various branches of physics, excluding, however, under this latter head all that transcends the power of direct observation. The first of these classes of sciences deals with visible objects in respect to form, the second with facts and phenomena in reference to law. Experimental illustration of the operation of the laws of nature affords the most fascinating description of entertainment which can be presented to the juvenile mind. And in addition to the world of novel truths, often startling in their interest, which it offers to the understanding, it affords material

admirably suited to the healthful exercise of the reasoning powers, at the moment when they are beginning to awaken into life. Moreover, the multiplied examples which these sciences present of conclusions drawn from premises systematically arranged accustom the mind to habits of correct inference from facts of observation, such as characterize those whom we call practical men, or men of sound judgment in the affairs of life.

It would also be highly advantageous if a child at this early period could acquire, by natural means, a familiar knowledge of some one or more of the modern languages of Europe. Not by the method of the schools — not by beginning with a weary drill on the abstractions of grammar, followed by a series of laborious textbook readings with the aid of a lexicon; but by oral lessons in actual speech, in which, from the beginning, the pupil learns to say something significant, and to understand something said to him — in which, in short, he acquires a foreign tongue, by the same inartificial means by which he acquired his own. This kind of linguistic exercise addresses the powers of observation no less than the natural sciences. The child chops no logic about his words, but picks up only what he hears, and he easily becomes interested in the acquisition on account of the large addition which it makes to his power of expression. This study so pursued is not only to be recommended for its uses as an instrument of early culture, but because the acquisition to which it leads is of priceless value, and because its attainment in later life is always more difficult and never so nearly perfect. In childhood the organs of speech are flexible and adapt themselves with facility to the peculiarities of pronunciation of foreign tongues. It is quite possible, therefore, that an English child may grow up to speak French and German like a native, but this is never true of one whose acquaintance with those languages commences in adult life.

A boy who has been subjected from the age of ten or earlier up to the age of fifteen to a course of training like that here indicated will, at the end of that time, have acquired an immense

stock of ideas, which, under our present system, he either never acquires at all or acquires only as part of that instruction which colleges are now compelled to give, and to give at the expense of something of a superior order for which they might otherwise have room. But this is not the principal advantage. The principal advantage is that he will have reached this point with a mind so harmoniously developed in all its powers that it is prepared to take hold successfully of those studies which at present encumber so unprofitably the earlier years, and to master in a comparatively brief time the difficulties of the Latin and the Greek. Two years after this period spent on these languages would bring the youth to the age of seventeen, more thoroughly versed in them than is the case with one out of a dozen at present; besides which, his superior command over his faculties, a consequence of the salutary discipline to which they had been subjected, would give him an additional advantage of inappreciable importance.

It is to be hoped that, with the prevalence of better views of the philosophy of education, this great and long-standing abuse may be corrected. It is to be hoped and expected that its reform may be one of the earliest consequences of the inauguration in our country of a systematic course of teaching, of which the science of education may itself be the object. In the meantime, it is somewhat surprising that as yet there has arisen no individual reformer with sagacity enough to see the evil, and with resolution enough to set himself up in defiance of the pernicious traditions of the centuries. Could such a one arise, and should he exhibit for a single year, in practical operation, a system of mental culture adapted to the period of childhood, and founded on truly philosophical principles, the results would be probably surprising, but could not fail to excite admiration and arouse a public opinion which would speedily force the adoption of methods similarly rational in all the schools.

The success of such a system would depend not merely upon the subjects which should form the substance of its teaching, or

the order in which these should be taken up, but still more possibly upon the manner in which they should be presented.

Let us endeavor to draw an ideal picture of such a model school and of its plan of daily operation. Its site we will suppose to be chosen in the country, near to, but not within the limits of, some pleasant village, in a region diversified with hill and dale, mountain, rock, stream, forest, and cultivated land. The building should command an extensive prospect, in which may be distinguished the windings of the streams, the lines of the thoroughfares, the divisions of the lands, the farm-dwellings dotted here and there through the landscape, and the clustered houses of the village in the distance. These features are not suggested as desirable merely because they may add to the attractiveness of the place, though that, of course, will be their natural effect; but their presence is of some importance because they constitute useful auxiliaries in the educational plan. The boys on entering the school will require no outfit, except plenty of good rough clothing and stout shoes, suitable for outdoor exercise and work. It goes without saying that they are to be supplied with abundance of healthful food, and that satisfactory provision is to be made for their physical comfort in every respect. The schoolroom, which will become rather a hall for conversation, or a resort where the boys may occupy themselves according to their own pleasure, than a place for teaching in the ordinary sense, will be spacious and airy. Every boy will have his place in it, and will be furnished with a desk of ample dimensions and with abundant materials for drawing, as well as with a capacious cabinet for the arrangement and preservation of the specimens in natural history or other interesting objects which he may collect. The boys should be divided into sections of not more than twelve each, and every section should have its instructor permanently attached to it, who will need to be a pretty thorough proficient in every branch of natural science. There should be a large workshop for working chiefly in wood, with competent mechanics in charge, and each boy should have

his bench here, with a simple set of the necessary tools. There should also be a laboratory for physics, and one for chemistry, with the same provisions. The institution should be amply supplied with books, but none should be put into the hands of the boys except at their own request, and upon good evidence that they desire to employ them as helps to learning.

The boys who enter this school are presumed to be able already to read and write. The purpose of the school itself is to acquaint them intimately with the various objects which make up the world in which they live. Let us suppose the first subject which occupies attention to be the vegetable kingdom. Of this, the most conspicuous members and the most easily studied are the trees, and it will therefore be best to begin with them; and here, as elsewhere always, the methods of study will be entirely practical. No time will be spent in talking about trees — that is to say, describing them — or in reading about trees or in looking at pictures of trees. The boys will go out together into the fields and woods to find the trees, and to study them where they stand. A large part of every fair day will accordingly be spent in the open air. The boys will go out with their teacher, each being provided with pencils and tablets, and with a tin case suspended from the neck such as is used by botanists for collecting plants. There should be a hatchet or two in the party, and a workman with an axe should be in attendance.

When the party is once afield, the first question asked by the teacher should be: "Is there any boy here present who knows any particular tree when he sees it?" and if so he should be allowed to look for it and to point it out. Most boys know the fruit trees, and, if there are any orchards in the neighborhood, someone will presently discover an apple, a peach, a plum, or a pear. He should then be required to state how he distinguishes it, whether by its size, its general form, its leaf, its blossom — if in the season of bloom — its peculiarities of ramification, or by all these things together. Of course, if the fruit is present, that is conclusive; but the other characteristics ought not, there-

fore, to be neglected. If there are any in the party who have not remarked these particulars before, their attention will be thus drawn to them, and the boy becomes thus the instructor of his fellow pupils. Each member of the party will then be called on to make with his tablets the best sketch he can of the general form and appearance of the tree. The drawings will probably be rude and inartistic, but they should not be condemned on that account. Improvement will come with time, and the ambition to draw well, which will soon be alive, will lead individuals to ask for instruction in the principles and practice of the art. But the immediate advantage of the exercise is that it fastens the attention of the pupil successively upon the details of the object, and fixes the picture of it in his mind with an exactness it would not otherwise acquire. Specimens will then be taken of the leaves of the tree, its bark, its flowers, or fruit if in season, and its wood. These may be examined on the spot, but they must be preserved for future study at home, and in order to form parts of a permanent collection to be kept by each boy. The most interesting of these specimens will of course be the flowers, which, though, as to their general appearance, they are likely to be known to most boys, yet as to the peculiarities of their structure will never probably have been the subject of particular observation. It will be the business of the teacher to explain this structure, pointing out the distinctive organs and describing their functions in the fecundation of the plant, but he will avoid all generalizations or attempts to classify, leaving such things to the time when the multiplication of examples shall lead the pupil himself to perceive the analogies which indicate unity of plan.

The study of one tree having been completed, the party will proceed to another, taking always by choice first any one which may be identified by a member of the class. The fruit trees, shade trees, and ornamental trees, being generally familiar, will thus one by one come under examination; after which, in proceeding to the forest, it may become necessary for the teacher to name

the subject. These tree studies will occupy many days. A single excursion of three or four hours may suffice for a day; and, in the beginning, a single subject may afford ample material to fill up the time of an excursion.

After the return to the school, the first attention should be paid to the specimens gathered. The barks should be laid away in trays on the shelves of the cabinets, the leaves and flowers should be pressed between folds of bibulous paper, and, after being sufficiently dried, should be secured in portfolios for future examination and comparison. Specimens of the woods should also be prepared by the boys in the workshops, with the assistance, if necessary, of the carpenters; and for this purpose, as the wood in its green state is not easily wrought, a store of well-seasoned logs of each of the kinds of trees studied should be kept on hand. The boys should be shown the green and dried specimens side by side, that they may be familiarized with the effects of seasoning, and the specimens prepared for their cabinets should show the grain as it appears in sections through the heart, in the direction of the rings, or cut across. The workshop should contain, likewise, many specimens of sections taken from the trunks of trees, showing the rings of annual growth entire, and the boys may be practiced in determining the age of the tree by counting these rings.

The schoolroom exercises will be all of an equally practical kind. The boys may be called on in turn to draw upon the blackboard outlines of trees, leaves, flowers, or fruits for identification by the rest; or the teacher may present from his own store specimens of wood, bark, leaves, or flowers for a similar purpose. As the taste for drawing will be sure to grow with exercise, individuals should be encouraged to prepare at their desks more elaborate sketches; and in this their inexperience may be aided by suggestions from the teacher, or from a practiced drawing master, of which they will gladly avail themselves.

It is intended in these hints only to indicate the kind of exer-

cises which will fill up the indoor hours, and not to construct an exhaustive scheme. Moreover, confinement within doors, except in inclement weather, should not be so protracted as to be wearisome. The school proper may be relegated mainly to the evening hours, and during the day the boys should have ample time to devote to athletic sports in the open air.

The description of the study of the trees above given is intended only as an example of the method. After this class of objects has been exhausted, the same method will of course be extended to the shrubs, the vines, the great variety of annual plants, the mosses, and the fungi. It will also be applied to the animal kingdom, beginning with the larger domestic quadrupeds, and extending to wild animals, birds, reptiles, insects, and the lower forms of life, including the infusoria, so far as specimens are accessible. And it will further be applied to the study of inorganic nature, excursions being planned for that purpose into regions abounding in minerals and fossils, where the boys may use their hammers and stone chisels, and gather great store of interesting specimens; or to ravines, river bluffs, or artificial deep cuts, where they can observe the outcrop of the strata, and mark their characteristic differences. It will be applied, also, to the study of the earth's surface, with its physical features and its artificial divisions, to the extent to which the observation of the pupils in their various excursions has reached, thus forming an intelligent introduction to the study of geography. Here will be found the advantage of occupying a position commanding an extended view. Map drawing will be commenced with rough plots, drawn by sight, of the grounds belonging to the school itself, then of the adjacent fields, with the lines of fences, highways, watercourses, hill ridges, and forest borders, so far as they can be seen. These plots, which will probably be disproportioned, especially in the more distant parts, may afterwards be corrected by visiting the doubtful localities for the purpose, and they may possibly be reduced to something like exactitude by regular surveys made with compass and chain, an operation

which may be prosecuted at intervals through a period of some weeks or months.

In the meantime, as the knowledge of the pupils increases, they will become aware of the existence of objects analogous to those which they have studied, but which are beyond the reach of their own observation; and they will desire to learn something about such, especially if there is anything abnormal or otherwise remarkable about them. Thus, when trees are the subject of study, they will hear with curious interest whatever is told them of the banyan, the sequoia, the olive, or the palm. The teacher's instructions on the subject may be pleasingly illustrated by pictures and lantern views. The result will be the growth of such a craving after larger sources of information as books only can satisfy; and books, thus yielded to the demand of the learner instead of being thrust upon him against his will, will be held by their possessor in an esteem of which the ordinary schoolboy of our time, plodding and chiding the weary hours over his Greek grammar from day to day and from week to week, is in general quite incapable of forming a conception.

In conveying a knowledge of the elements of experimental science, though some modification of method would be necessary, the principle would remain the same. The work would be chiefly indoors, but the pupil would be required to experiment for himself. He would need to be told what to look for and what to expect, and might require some hints as to the mode of proceeding, but after his first success, he would get on with very little assistance. The problem of the center of gravity, for example, or the principles governing the stability of structures, the various cases of equilibrium, and the phenomena of elasticity, would require but very simple apparatus to enable the pupil to investigate them to his entire contentment. And so of other things. Here the demand for books would soon be urgent. There is no department of human inquiry in which the youthful experimenter becomes more promptly and completely wrapped up than that which relates to the operation of the forces of nature.

There is none in which he finds books more fascinating, or in which he feels a more eager ambition to add some discovery of his own to what he finds in books.

Thus the system of training of juvenile minds here described in outline, though it begins by discarding the use of printed aids of every kind, is sure to end in producing the most deeply interested and earnest students of books. It constitutes a regular education to the love of books, while that which is at present in vogue too frequently results in creating an utter detestation of the same objects. When we have preparatory schools conducted upon principles so sensible as these — and it is to be hoped the time is not very distant when we shall have them — we shall have a class of young men entering college who are not only better prepared to profit by the severer course of study before them than those we have now, but also without doubt better versed in those very languages which at present occupy so exclusively all the earlier years, so that, with their greater activity of intellect and readiness of apprehension, they are likely to be able in the end, as so few of our graduates are at present, really to read the Latin and Greek fluently.

In the foregoing sketch of an ideal school, one point is omitted which ought not to pass without notice: it is the place of the modern languages in the plan, and the manner of teaching them. Their place is everywhere, and the manner of teaching wholly colloquial. The teacher will begin by giving names, in the foreign tongue which may be chosen for the time, to all the visible objects around, and requiring the pupils to give them back to him. This should be done not in the manner of a scholastic exercise, but in the course of ordinary conversation, as, for example, while the class are out on their daily excursions in search of knowledge. He will follow this up by asking simple questions or making simple statements about the objects, both in English and in the foreign tongue, which the pupils will repeat after him. He will return frequently to the same questions, till they are understood without the necessity of using the

English equivalent. He will beware of pressing this exercise too fast. He will make it rather a matter of amusement, and will content himself if in the course of some weeks he is successful in fixing in the memory only a few of such questions with their responses. But progress in the natural process of learning languages is like the growth of a snowball rolled along the ground in winter: it increases at first slowly, but after a little time it takes up large additions to its bulk at every turn. Some simple sentences of necessarily frequent use will soon become familiar, after which they should be used invariably, the corresponding forms in English being discarded. The number of these will rapidly grow, and the substitution of the foreign language for the vernacular altogether for ordinary conversation, between pupil and teacher and between the pupils themselves, will be only a question of time. The entire feasibility of this plan is made evident by the success of a much more difficult experiment of which the undersigned has been the witness, in a school in which all communication between pupil and teacher was proscribed, except that which was made in Latin. There was certainly, for a time, a good deal of study over forms of speech, and occasionally a good deal of use of lexicons before speaking; and, in addition to this, the Latin was not always the best; but there grew up, nevertheless, a very intelligible conversational dialect, which improved in elegance as time went on. In our schools as at present conducted, this mode of teaching the modern languages is impracticable, because so little opportunity is afforded in them for conversational intercourse. With modern and with ancient languages the plan is the same, and consists, first, of solitary study on the part of the student, and, secondly, of grammatical drill and textbook recitation in presence of the instructor. It is capable of improvement only by revolutionizing the whole system, and the system will not be revolutionized until educational methods shall cease to be tolerated which cannot be shown to be in harmony with the principles of a sound philosophy.*

* Report for 1880-81, pp. 38-68.

MAY 1, 1882

One defect of our educational system which might have been included in the foregoing enumeration of our wants has been reserved to be separately considered in this place. It is one which was dwelt upon at some length in the last annual report of the undersigned, and it has lost none of its importance from the fact that its presentation at that time was unattended with the hoped-for success from the favorable consideration of the Trustees. It is the want here of a department designed to train young men to education as a profession, by giving instruction in the history, theory, and practice of education. The recommendation on this subject contained in the last annual report of the undersigned, just referred to, was not the first presentation of this project to this Board. As early as 1853, when the proposition to remove the College from its original site was first agitated, it was proposed that simultaneously with the removal there should be a change of system, in which, to the course of undergraduate instruction already in operation, a scheme of university education also, either in continuation of the former or otherwise, should be added. This proposition was the subject of much deliberation and of sundry reports; but no definite result was reached until April 5, 1858, when a definite plan was reported and adopted. Immediately after the adoption of this plan, an additional resolution was offered, to "add the 'science and art of education' to the subjects to be taught in the School of Letters." And this, too, was adopted with no apparent opposition. The scheme of university instruction here set on foot was but partially put into execution, and, after the experiment of a single year, was abandoned as being premature. Though "the science and art of education" was placed among the subjects to be taught in the School of Letters, no professor or other instructor appears to have been appointed for the purpose, and this part of the scheme fell through with the rest. The fact remains, however, that by the adoption of the resolution above cited, this

Board distinctly committed itself to the proposition that the science and art of education is a subject worthy to be taught in Columbia College. Had the general scheme proved a success, this part of it would have gone into operation also; and we should now have been able to look back upon a quarter of a century of experience of the inestimably valuable results accruing from the successful attempt, in this city at least, to transform the business of teaching from a trade to a profession. For the influence of the power here put into action would inevitably have reached not merely the educationists of the higher order, but every humblest teacher of the most insignificant primary on the island. Not that every such teacher would have been brought under the direct instruction of this chair. Possibly not one in five might have been so. But through those who were actually subject to this beneficial influence the substance of the instruction would have filtered through to all the rest. The errors which these had been taught to avoid would have been stamped out, not only in their own schools, but in those of their colleagues; the just notions which they had imbibed would have been imparted casually or designedly to the rest; and the whole system of public education in New York, from the most elementary schools upward, would have been lifted to a higher level, and all engaged in its management would now be walking in the light of a sound philosophy, instead of groping blindly in the darkness of ignorance or the obscurity of uncertainty and doubt.

Nor is it in Columbia College only that the importance of this subject has been recognized, or that attempts have been made to carry out in practice a system of instruction in pedagogics. During the past winter an accomplished educationist has been giving a course of lectures at Harvard University upon the science and art of education, and has repeated the same in the city of Boston. Another no less capable has been lecturing with success on the same subject in some of our Western cities. But in these cases the object attempted has not been that which is the principal aim we have proposed to ourselves here. Our pro-

posed object has been to reach the teachers of the public schools of the city of New York and its vicinity. By inspiring these with a just appreciation of the nature of their work and instilling into them a proper knowledge of the principles which should govern it, we should awaken in them an interest in it, and an ambition to do it well, which in the nature of things they cannot under present circumstances feel, and should thus accomplish a public good, the magnitude of which it would be impossible to calculate. For at present they have, as a rule, no adequate knowledge of the nature of their task, and certainly they have no proper preparation for it. We may except a few, perhaps, who have had the training of the normal schools, but even for such it is doubtful how far that is sufficient. The commissioners of education, indeed, or the general superintendent of education, impose some test of qualification of the candidate for appointment, in the nature of an examination; but this is often formal and perfunctory, and turns mainly on the knowledge possessed of the subjects to be taught, and not at all on the philosophy of teaching. With this sort of preparation the teacher enters his school. He knows in advance what is the round of duties he is expected to perform: that he has to hear one class read, another class recite a task learned "by heart" from a book; a class in "ciphering" to exhibit the results of certain simple arithmetical operations, and to be told whether or not they are right; a class, perhaps, in geography to repeat the names of a great many towns and mountains and rivers, and to point out some of them on a map; a class of little ones to "say its letters," and another of similar age to spell its "a-b-abs." It does not occur to him to study the operations of the growing minds which are thus subjected to his daily observation. Nothing suggests to him the inquiry whether the traditional routine they are pursuing is actually quickening their budding faculties or imparting vigor to their dawning intelligence. Even if he should try in the beginning to take a personal interest in his pupils, and to exercise over them a beneficial influence, yet, having no clear notion in his own mind how

this is to be done, he soon, after a few futile efforts, lapses into indifference, and, finding it much easier to drift along with the routine than to invent new devices, resigns himself to a situation which seems to him inevitable, and becomes a mere element in a machine which moves on sluggishly in virtue of its own *vis inertiae*. Such a man is very apt to become a dead weight upon the growing capacities of his pupils, crushing them back as they struggle to expand, rather than an animating influence stimulating them into life. Let him, however, become imbued with the principles of a true educational philosophy, and instead of being an obstruction he will become a living force. In the words of the able lecturer on pedagogics at the University of Cambridge, the Rev. R. H. Quick,

If we can once get the teacher thoroughly interested in the thoughts of the greatest thinkers about education, and at all conscious of the infinite field of observation and varied activity which he may find in the school room, we have done both him and his pupils the greatest possible service. We have entirely changed the nature of his employment, by changing the position of his own mind towards his employment. He no longer thinks of it as a fixed course of routine work, and the dulness of routine at once disappears to the immense relief both of himself and his pupils.

The same writer also quotes from one of our own distinguished educationists, the late Jacob Abbott, the following significant passage:

When a teacher looks upon his school as a field in which he is to exercise skill and ingenuity and enterprise; when he studies the laws of human nature and the character of those minds on which he is to act; when he explores deliberately the nature of the field which he has to cultivate and of the object which he wishes to accomplish, and applies means judiciously and skilfully adapted to the object, he must necessarily take a strong interest in his work. But when, on the other hand, he goes to his employment only to perform a certain regular round of daily work, undertaking nothing and anticipating nothing but this unchangeable routine; and when he looks upon his pupils merely as passive objects of his labors, whom he is to treat with simple indifference when they obey his commands, and to whom he is only to apply

reproaches and punishment when they disobey; such a teacher never can take pleasure in the school.

Such a teacher, it may rather be said, is no teacher at all. He is no better than a lay figure set up in the schoolroom for pupils to read at, and recite at; or rather he is simply a police officer, exercising no other function proper to a schoolmaster but that of preserving order.

Now there seems to be no possible way of saving men charged with the important duty of "rearing the tender thought and teaching the young idea how to shoot" from the liability to lapse into this lifeless condition, but by early indoctrinating them in those principles of psychological science of which the infant mind is constantly presenting so beautiful and so ever varying illustrations, and thus engaging them in the study of those capacities in their pupils which it is their business to develop. It is a very dull occupation to mark from day to day the additional number of a-b-abs which a little child may be able to say correctly since its last trial; but it is a study full of ever new delight to watch the gradations by which the growing intelligence of the same child unfolds itself, the constantly increasing acuteness of the perceptive faculties, and the progressive power of distinguishing shades of resemblance or difference.

But not only may the teacher become interested in his work by a proper study of the psychological principles on which it depends and by observation of their illustrations in the living subject, he may also be stimulated in the same way by whatever leads him to ponder on the nature of his task. Nothing can be better adapted to this end than the study of the history of education. The history of education and the lives of eminent educators are full of educational methods, some of them approved and highly popular in their day, but subsequently abandoned, and others which have continued to maintain their ground down to the present time. Now, the study of all these methods is profitable — of the failures, as well as of the successes — for they are all founded on their own several theories; and they therefore

compel thought and provoke inquiry why they should have succeeded or failed. And everything which constrains the teacher to reflect on the principles of his own calling, and to ask himself how any definite object in education may be best attained, and why it may not be attained in some other way better, tends not only to interest him in his vocation, but also to qualify him better for the discharge of his duties.

In illustration of what is here intended, let us take from the history of education an example or two of methods which in their time have had great vogue for the accomplishment of particular objects. Such methods have been devised in reference to almost every subject of instruction, but probably the most numerous are those which relate to the teaching of languages. At the present time in the teaching of modern and foreign languages the methods practiced are very various; but, in regard to Latin and Greek, the plan almost universally prevalent is to put the pupil in the beginning through a pretty thorough course of grammar, then to give him an easy book with a glossary, and after that a more difficult one with a lexicon, leaving him with these helps to explore his own way as best he can. Perhaps the wisdom of this method may be seriously questioned by one who studies the methods suggested by some of the educational theorists of past centuries.

The method proposed by Roger Ascham, in his famous book *The Scholemaster*, was as widely different from that above described as possible. He used but one book, which was made up of selections from a Latin author — in fact, of passages from the letters of Cicero. The pupil, after learning the inflexions of the nouns and verbs, was furnished with this book, but he was not expected to study it in the manner customary with our modern boys; he was to look on and strive to remember, while the master read and translated it to him, and expounded to him the syntax of all the words. Grammar was thus taught by piecemeal, as the exigencies of the text might require. This process was repeated with the same selection again and again till the pupil, in virtue

of having the same succession of words and ideas brought continually before him, became at last capable of giving back what he had received, that is, of translating the sentences and parsing the words himself. The lesson was, however, not complete until he was able not only to do this, but also to give back the Latin version when the English only was presented — in other words, until he had fixed the whole, original text and translation alike, in his memory. This required a repetition of the study “a dozen times at least.” The master then passed to the second selection.

The suggestion which presents itself on consideration of this method is that, while it may possibly be very effectual as a means of imparting a knowledge of language, it is educationally faulty in calling into exercise no faculty of the mind but that of memory. This would unsuit it to be used with young children, though it might possibly be advantageously employed with adults.

The method of Ratichius (properly named Wolfgang Ratke) was similar to that of Ascham in employing only a single book. But he required no preliminary preparation of the pupil in the forms of cases and tenses. He took a play of Terence, and required each learner to study carefully the translation three times over before seeing the original. Then, from the open book, the master translated, as in the method of Ascham, for half an hour, when he resumed at the beginning and translated the same passage a second time. After completing the play, the exercise was resumed in the same order, only that the pupil began now to take an active part, repeating in the second half-hour the translation given by the master during the first. This being completed, a third rehearsal took place, in which the pupils only translated. When the pupil in this way had become master of the lesson so far as the sense was concerned, the grammatical problems suggested by the text were taken up, the master explaining them in the particular relations presented without generalizing, leaving generalizations to follow by induction. This method, too, has some advantages, particularly the presentation to the student of

a version in the vernacular, before he is required to study the original; but it obviously throws too much upon the master, and is unfit to be employed as a means of mental discipline.

Jean Joseph Jacotot, a lecturer on French literature in the University of Louvain, Belgium, early in this century announced the invention of a "universal system of education," of which the fundamental principle seems to have been to put the pupil into as favorable conditions as possible to teach himself, and to leave him to overcome the difficulties in his way as best he can. In the application of this theory to the teaching of language, he placed in the pupil's hands, as Ascham and Ratichius had done, a single book. In the teaching of French, the book chosen was Fénelon's *Telemachus*. This book the pupil was, at every lesson, to begin at the beginning, finding out the meaning from a translation or otherwise as he best could, and advancing at each reading a little farther than at the last preceding. The number of repetitions was therefore indefinite and often very great. As for grammatical forms and syntax, the learner was to guess them out, or study them out, the teacher not being permitted to give him any direct information whatever. This method enjoyed an extraordinary and extended popularity for some years during the life of its author; but long before his death, which occurred in 1840, it fell into complete disrepute. There was, nevertheless, a principle of true philosophy in this, which is to be found in the point in which it differed from the methods of Ascham and Ratichius: it required the pupil to use all his faculties, instead of resting for his advancement upon the memory alone. Of the merits of this system the Rev. Mr. Quick, of Cambridge, observes:

I take it that Jacotot taught more emphatically than any one three great paedagogic truths: first, that a good teacher exercises the searching rather than the receiving faculties of the learner's mind; second, that all fresh knowledge should be connected with what the learner knew before; and third, that a thorough knowledge of anything is an almost inexhaustible source of power. However, if his principles were right, there must have been some grave defects

in his application of them; or his system, which at first met with immense success, would not so speedily have lost its ground.

The grave defect in the application consisted obviously in his pushing the first principle to an extravagant and unreasonable excess, and in leaving the pupil too entirely helpless. It is well to require a young person to find out things for himself; but it is not well to withhold from him instrumentalities for aiding search which he is not likely to find out for himself, or can only find out at the cost of a very disproportionate amount of labor.

John Amos Comenius lived about a century earlier than Jacotot. His method of teaching languages was what has been called the intuitive or perceptive system, being embraced in a series of lessons in the language to be taught relating to simple subjects easily appreciable by the senses, such as objects in natural history, the sciences, trades, or professions. He aimed at two things at once—to impart knowledge of things, and to enable the learner to talk about the things in another language than his own. It was necessary, therefore, that the pupil should learn thoroughly all the words and all the facts embraced in each successive lesson. Keeping this condition in mind, he made it his endeavor to avoid the repetition of words, and to compress into his lessons the largest practicable number of different words. The book published by him in his later life, entitled the *Orbis sensualium pictus*, in which he aimed to present the perfect embodiment of his complete system, contained all that he knew of the visible world, and all the words sanctioned by good usage in the Latin language. He prided himself on the fact that no word occurs in the book twice, except the indispensable connectives.

There is good sense in the idea that, in the teaching of languages, the lessons should be so chosen as to avoid loading the mind with other labor than that which the acquisition of the language requires; but the weight of this consideration is overborne by the fact that the study of language in our schools is not pursued with the exclusive object of learning the language to read or to speak with facility, but rather in order that the

study may call into healthy exercise all the mental faculties equally; and hence it is a mistake to present language in such a form as to put these faculties generally to sleep, and keep the memory only awake. It is also a mistake to make a point of excluding all repetitions of words, since language in its natural utterance involves the necessary and frequent repetition of certain classes of words which constitute its framework and give it its character; such as, in our own language, are the words of Anglo-Saxon origin, which, though outnumbered three- or fourfold by those which have been transplanted into it from other sources, recur with probably three- or fourfold frequency. Hence, though the *Orbis pictus*, if thoroughly digested, may give a learner a complete Latin vocabulary, it cannot make him a master of the Latin language.

The Hamiltonian method of language teaching is so named from James Hamilton, an Englishman, who early in this century published in this city a treatise embodying views as to language teaching, which he afterwards, here and abroad, spent his life in putting into practice. The great merit which he claimed for his system was the rapidity with which it accomplished the most extraordinary results. He proposed to teach adults to translate the Gospel of St. John from French into English in fifteen lessons; but found, as is related, ten lessons sufficient. Hamilton's method is thus succinctly explained in the article under this title in Chambers's *Cyclopaedia*:

Supposing Latin to be the language to be learned, Hamilton put into the pupil's hands the Gospel of St. John in Latin, with an interlinear version, so literal as to show the gender as well as number of nouns, etc., and the mood, tense, and person of the verbs. The idioms were not translated by corresponding idioms, but each word by its literal equivalent in English. A fundamental point with Hamilton was to give the primitive and not the derivative signification of the word, and to give the same signification to the same word in whatever connection it might stand. When the pupil had by this practice got a considerable knowledge of the vocables and the accidence of the language, he was practised in turning the English version back into the Latin. Hamilton under-

took in this way to give boys of eleven as much knowledge of Latin in six months as they usually learn at our public schools in six years.

The fault of this method, as of those first mentioned, is that it fails to make of the study of language a means of mental discipline, and that however useful it might be for adults, it ought not to be practiced with children. Besides, the principle of translating *literatim* is a false one, no language admitting such direct transformation into any other. Hence, if it has ever been successful, it must have been so in spite of this theoretic error.

It is not necessary to multiply examples, though there are many more, no less interesting and no less instructive than those above mentioned. The object of introducing these is to show that, even the history of education, which might be presumed to be the least profitable part of a course of instruction in pedagogics, contains much to direct the mind of the professional teacher to the problems presented by his own calling, and so to inspire him with an interest in his work without which it can never be a pleasure to himself or a benefit to others.

But after all that can be said on this subject, there will unquestionably always remain minds unconvinced — minds otherwise perhaps characterized by sound judgment — to which the project of educating teachers to the business of education seems a purely visionary fancy. The teacher, they say, is born, not made. Education is not a science to be taught; it is a vocation to be embraced in response to an inward call. And, in so far as there is anything to be learned in the art of teaching, it is only to be acquired in the difficult school of experience, and the learner must be his own teacher. Let us suppose that this is true, it cannot but produce a most painful impression upon the mind of one who admits it to call to mind the universal truth that whatever is possible to gain by tentative efforts in any description of skill can only be gained at serious cost to somebody, and not always at the cost of the individual who profits. If one were to attempt to acquire the art of carving in ivory by experience,

he could only hope to become an expert carver after ruining much costly material, the property of himself or of any employer who should propose to educate him by so expensive a process.

At present [says Professor Meiklejohn, of the University of St. Andrews], all secondary and many primary teachers gain their experience at the cost of their pupils. Their first pupils are the *corpora vilia*, on whom experiments are made for the benefit of those who come after. I remember hearing Dr. Abbott, one of the very ablest teachers in the country, and the Head Master of the City of London School, make this remark: "I gained my experience at the expense of my pupils for the first two years." Others go on gaining "experience" all their lives; and nothing comes of it for their pupils but maimed powers, baffled intellects, and dulled interest.

And the Professor goes on to say:

The substitution of the methods and results of the carefully interrogated experience of others for this process of mental vivisection, the consequent removal of friction with its loss of power, and the profit of the first and all succeeding pupils, are the chief practical aims to be kept in view in the training of the teacher.

And if we could find no other or more weighty reason for desiring that some general and effectual system should be established for properly preparing for their work the thousands of men and women into whose hands the destinies of the rising generation of the country are so largely committed, it would be enough for us to point to the pernicious state of things in which multitudes of these tender minds are annually crushed, paralyzed, or stupefied by the ignorance, inexperience, or indifference of this same class of persons.

The proposition that authority should be given here for instituting a course of lectures on the history, theory, and practice of education, after having been recommended in the last annual report of the undersigned, was laid before the Trustees in the autumn of 1881, in the form of a resolution, which was referred for consideration and report to one of the permanent

committees of the Board. After having been the subject of deliberation in the committee for two or three months, the resolution was finally approved and ordered to be reported; but after the report had been drawn up, it failed to receive the signatures of a majority of the committee, and further proceedings were practically arrested. But though this result was a disappointment, it was not wholly discouraging. The facts of the case made it evident that the opinions of the committee were nearly equally balanced, or were perhaps favorable to the measure taken *per se* rather than the contrary, economical considerations entering probably to some extent into the decision. The undersigned could not feel that his duty had been discharged if he did not ask that the question might be taken up once more for reconsideration. In no other way which it is possible for him to imagine could the power of this institution for good be made more widely or effectively felt than in this; in no other way than in this could it do so much to vivify and elevate the educational system of this great community, through all its grades, from the highest to the lowest.*

* Report for 1881-82, pp. 51-65.

LIBRARY SERVICE

MAY 7, 1883

IN the past few years, the work of a librarian has come to be regarded as a distinct profession, affording opportunities of usefulness in the educational field inferior to no other, and requiring superior abilities to discharge its duties well. The librarian is ceasing to be a mere jailer of the books, and is becoming an aggressive force in his community. There is a growing call for trained librarians animated by the modern library spirit. A rapidly increasing number of competent men and women are taking up the librarian's occupation as a life work. Thoughtful observers say that public opinion and individual motives and actions are influenced now not so much by what is uttered from the rostrum or the pulpit as by what is read; that this reading can be shaped and influenced chiefly and cheaply only through the library; and therefore that the librarian who is master of his profession is a most potent factor for good.

In our colleges, every professor and every student, in whatever department, necessarily bases most of his work on books, and is therefore largely dependent on the library.

Recognizing the importance of this new profession and the increasing number of those who wish to enter it, we are confronted by the fact that there is absolutely nowhere any provision for instruction in either the art or science of the librarian's business. Prominent library officials tell us that it is no uncommon occurrence for young men and women of good parts, and from whom the best work might fairly be expected, to seek in vain for any opportunity to fit themselves for this work. It is simply impossible for the large libraries to give special attention to the training of help for other institutions. Each employee must devote himself to the one part of the work that falls to his share, so that he can know little of the rest, except what he may learn by accidental and partial absorption of their methods. There is

a constantly increasing demand for trained librarians and cataloguers, and there is no place where such can be trained. A limited number may be here and there found who have had certain experience in parts of library work, but few who have been systematically trained in any, and fewer still who have had such training in all. The few really great librarians have been mainly self-made, and have obtained their eminence by literally feeling their way through long years of darkness.

It is possible, in connection with a library like ours, already respectable in the number of its volumes, yearly growing and destined to be great, to supply this want at a cost trifling compared to its importance. No instruction in languages, literature, history, science, or art now given in any of our various schools need be duplicated for this purpose. No expensive apparatus is needed to accomplish it. The necessary library, in operation as a basis for study, is already provided, and other libraries in which to study and compare various systems of administration are at hand in New York as nowhere else.

The instruction and needed inspiration for the work can be given best by lectures by the recognized authorities in each special department of library work.

Inquiry among several leading members of the profession has uniformly shown great interest in the project of such a school and a universal willingness to assist it in every way.

The course need not be greatly extended, as only the technical parts of the work would require treatment in it.

Such a school is called for, not only by the inexperienced who wish to enter upon library work, but by a growing number of those already engaged in it. Of the five thousand public librarians in the United States, not a few would gladly embrace such an opportunity to bring themselves abreast of modern library thought and methods, and their employers would find it economy to grant them the necessary leave of absence to enable them to do so. If it be true, as is so often stated, that ten thousand volumes catalogued and administered in the best way are more practically

useful than thirty thousand treated in an unintelligent or inefficient manner, then it is of the greatest importance to advance by every possible means the general standard of library work throughout the country. As those best qualified to judge who have given the subject their attention agree that such a school once established and properly conducted is sure to succeed, and as it is now practicable for us to assume the leadership in this department and to offer such instruction without extending the line of our annual expenditure, the undersigned would respectfully recommend to the Trustees that they should take into serious consideration the expediency of opening here at an early day a school such as is above described.*

MAY 5, 1884

The suggestion, embraced in the last annual report of the undersigned, of the expediency of establishing here a school for the training of young persons to such an acquaintance with the modern improved system of library management as should fit them to take charge of the very numerous public libraries of the country, most of which are now conducted without any system at all, has awakened a more general and more lively interest among those whom the proposition concerns than had been anticipated. With the members of the Association of American Librarians, the scheme of such a school, to be somewhere established, has been for some years a subject of discussion and of favorable consideration. The prospect of the early realization of that idea by the action of this institution has therefore afforded them gratification, as promising to supply a want of which they have a clearer appreciation than any other class of persons in society. But expressions of similar gratification have come with no less emphasis from another and at present more numerous class, viz., that of those who have already undertaken the charge of libraries without an adequate understanding of their duties, and of others who aspire to occupy similar positions, but wish

* Report for 1882-83, pp. 48-51.

first to acquire the necessary qualifications. It is said that the number of public libraries in the United States is not less than five thousand, and the number is constantly increasing, as the value of these powerful aids to public enlightenment is becoming more and more generally appreciated, and every village is becoming ambitious to secure the benefits which such instrumentalities diffuse around them. Too many of these local institutions are, however, in the hands of employees whose highest notion of the duty of a librarian is to deliver books to those who ask for them, and to keep a faithful record of the books thus given out. A thorough education in the principles of library administration, as now understood and taught by those through whose experience they have been developed and reduced to a system, would enable the custodians of these scattered collections of books to increase their effective usefulness manifold. At present, the only mode in which a young man who aspires to occupy the position of a librarian can acquaint himself with the nature of the duties he will have to discharge is to enlist himself as a subordinate in some large and well-conducted library, and learn by observation and experience. But this sort of education, or, as it may be better styled, apprenticeship, is attended with two disadvantages: the first, that it requires an unnecessarily extended period of time to acquire by imitation or assimilation what might be much more expeditiously conveyed by direct instruction, and, secondly, that openings of this kind in great public libraries are not numerous, and may often have to be long waited for. The desirability, therefore, of the creation of a school for the education of librarians is obvious, and that such a school cannot fail to be instrumental of great public good is a point that needs not to be argued.

By a resolution adopted by the Trustees on the seventh of May last, the Committee on the Library were instructed to consider and report as to the expediency of creating, in connection with our library, a school such as is here described. The Committee have been disposed to act with deliberation, especially

inasmuch as it was understood that, in any case, the commencement of actual operations was not expected to be immediate. It is believed, however, that the Committee will soon be prepared to report, and the probability is that their report will be favorable.

Several considerations concur to recommend the adoption of the proposed scheme, one or two of which may be mentioned, but on which it is not necessary to dwell. In the first place, its novelty will serve to draw toward our College the attention of the public, and especially of the press, which is always interested in whatever relates to books and to the diffusion of intelligence among the people. In the next place, the measure will be recognized as meeting and supplying a public want, the magnitude of which society is learning every day more clearly to appreciate, and our institution will enjoy the advantage which accrues to those who are recognized as having rendered a great public service. In the third place, the creation and maintenance of the proposed school involve no expense to the treasury. The school will be self-sustaining so far as any outlay for its maintenance is involved. No outlay would be necessary, except sufficient to pay the expenses of the lecturers from a distance whose coöperation is already assured to us in advance, and who would give us the benefit of the best experience in the various branches of library management which the country affords. For this it is estimated that the fees paid by the matriculates of the school would amply suffice. Unless the indications which have reached us from every quarter are wholly fallacious, the attendance in the school will not be inconsiderable, and a reasonable fee will more than cover all its expenses.

As to organization, it is proposed that the school shall be placed under the special control of the Committee on the Library, the chief executive officer to be the Chief Librarian, who shall receive also the title of Professor of Library Economy, as denoting his relation to the system of instruction in the school. As assurances have reached us from the most distin-

guished and most experienced of the librarians of the country of their willingness and desire to promote the success of the undertaking by lending their personal aid in carrying out the scheme, it is presumed that the Committee on the Library will be authorized to extend from time to time, to such accomplished experts, invitations to deliver before the students courses of lectures more or less extended, as each case may seem to require, on those subjects connected with library management as to which they may be severally regarded as the authorities best qualified to speak. We shall thus be enabled to concentrate here, at one point, the highest ability and the largest experience which the country affords in this department of knowledge, and we shall have the satisfaction of having been first to enter a field which, whether we make it ours or not, cannot long remain unoccupied.

As to the time at which the doors of the school shall be opened, it is not necessary to be precipitate. Perhaps it would be sufficiently early to say that operations shall commence on the first of October, 1886; but it is important that the question whether the undertaking shall be attempted or not should be settled without delay, for the double reason that if no announcement is made by us the work will probably be undertaken elsewhere, and that if we are to undertake it, it is desirable, in the interest of those who may desire to avail themselves of the advantages we offer, that ample notice of our purpose should be extensively given a considerable length of time in advance. As the International Association of Librarians is to hold its annual reunion some time during the coming summer at Toronto, in Canada, an occasion would there offer itself of making any resolution which may be reached by us promptly known to those most interested in it, in all parts of the United States. And during the interval which must elapse before the scheme goes finally into operation, not only will those who propose to avail themselves of its advantages have time to make their preparations, but the Committee will be able to mature the scheme of instruction,

to arrange with lecturers from a distance the subjects and the order of their lectures, and to settle the conditions of admission and the nature and forms of the certificates to be issued to proficient. It is to be hoped, therefore, that the preliminary question, that is, the question whether the school shall be undertaken or not, may be decided before the Trustees finally adjourn for the summer.*

* Report for 1883-84, pp. 29-33.

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PART FOUR

DEVELOPMENT OF A UNIVERSITY

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XVI

IDEA OF A UNIVERSITY

JUNE 4, 1866

OUR higher institutions of learning, until a comparatively recent period, have been equal to the educational wants of the country. Theirs has been a noble function, which they have adequately and admirably fulfilled. Nor in their own peculiar field is their usefulness diminished, or are they likely ever to be superseded.

But with the advancement of human knowledge and the growing diversity of the arts of civilized life new fields are opening and new wants springing up which imperatively demand the creation of new agencies; and the educational problem of the day is to discover in what manner these new agencies can be most conveniently supplied, or in fact supplied at all.

For the last thirty or forty years there has floated in the minds of American educationists the ideal of a grand university, in which should be united the best features of the universities of Great Britain and of the European continent — an institution in which provision should be made at once for giving instruction of the highest order in every department of human knowledge, and for encouraging and facilitating original investigation in every subject of interest to man. On one or two occasions, we have seen energetic efforts put forth to secure the illustration in the actual of this most fascinating ideal. It is now ten or fifteen years since there was brought to bear upon the legislature of this state the influence of a combination of talent such as has been rarely seen united in a common purpose, having for its object to secure the endowment at Albany of an institution of the character just described. The effort failed, as every such effort made in this country must fail, which builds its hopes upon the liberality of legislative bodies.

A project so magnificent as that which was here proposed could have no adequate realization without a foundation of ten

or fifteen millions of dollars. To look to a state legislature for the exercise of a munificence like this, upon no better plea than that the highest intellectual culture of the people might be thus subserved, could be nothing less than visionary; and to attempt to rear the superstructure without an adequate foundation could result only in disastrous failure. It is true that the projectors, in the instance referred to, entertained very sanguine hopes of aid from private contributions; but no private liberality would rise, in any brief period, to the height of this formidable demand. The project failed, but there still survives a permanent monument of the earnestness with which it was prosecuted, in the Dudley observatory which it stimulated into life.

Universities are a want of the country which must and will be supplied; but they cannot spring into being full panoplied like Minerva from the head of Jupiter. They must grow by gradual accretion continued through a long series of years, and no such accretion can take place except around an existing nucleus. By a process of this description they are growing now under our eyes. We see the fact illustrated in the instances of Harvard and Yale Colleges; and if anything is written in the book of destiny with a distinctness not to be mistaken, it is that our own College is to furnish a similar example.

In this point of view we see how absurd is the notion, prevalent in this community, that Columbia College possesses an endowment sufficient for all her wants. Columbia College, considered as a mere college, is indeed comparatively rich. If she had no other and no higher function to fulfill, but that of preparing and sending annually into the world a score or two of Bachelors of Arts, the popular impression would be just, and it might be said of her that she is rich enough. But she has a mission vastly more important than this — a mission of such dignity and grandeur that, beside it, her original function, as a school for the training of boys, shrinks into comparative insignificance.

The fact that the College already possesses some resources, so far from being a reason why she needs no more, is the very

best of reasons why her resources should be largely increased, and, instead of disposing her friends to regard her claims with apathy, should stimulate them to a higher zeal in the endeavor to add to her strength. She is the nucleus of what will one day be the great university of the city — possibly of the continent — and it should be an encouragement to all who have any ambition to see our city as preëminent in its literary and scientific character as it is in its population, its commerce, and its wealth, that she is a nucleus so substantial already — so sound and solid at the core — that all future accretions will adhere to her firmly and constitute the elements of a healthy growth.*

* Report for 1865-66, pp. 27-31.

XVII

POSTGRADUATE INSTRUCTION

JUNE 2, 1879

THE adoption of a liberal system of elective study . . . prepares a college to rise naturally and easily to the higher level of postgraduate instruction. By this term, postgraduate instruction, is meant that larger development of important subjects of knowledge for which there is needed such a preliminary acquaintance with the elements as is furnished by the usual course of collegiate study. It is in this superior course that such extensive subjects as philosophy and the history of philosophy, general history and the philosophy of history, Roman, Grecian, and modern literature, political economy, constitutional law and the science of government, ethics, aesthetics, the higher mathematics, mathematical physics, and many others which are included, by title at least, in the educational program of nearly every college, and professedly taught to every undergraduate, can only in any proper sense be taught at all. The most that the ordinary college course can do for the student in regard to them is to enable him, in default of better guidance, to become his own instructor, and seek to increase his knowledge by the aid of books. In this course also, room may be found for many topics of interest which the ordinary college scheme, comprehensive as it is, does not embrace at all, such as poetry, the fine arts, comparative philology, commerce, statistical science, social science, diplomacy, international law, ethnology, physical geography, Oriental literature, and the like — topics which can scarcely be studied with profit unless studied thoroughly.

There can be no doubt that the time has come when provision on a liberal scale will have to be made in our country for instruction of this superior character. To a certain extent, in a few of our leading educational institutions, it is already offered. At Yale College there has long existed a school of philosophy and philology, a school of the fine arts, and a school of Oriental litera-

ture. Princeton has established lecture courses to graduates on ancient and contemporary philosophy, on Sanskrit, and on early English and Anglo-Saxon; and Harvard University offers similar instruction in classical literature, history, philosophy, the higher mathematics, and many other subjects of importance. These provisions have been gradually growing up, and they will continue to grow, until the graduate instruction in these institutions may possibly overshadow the undergraduate.

It is not to be supposed that, because these attempts to supply an educational want of our country have been of comparatively recent date, the want itself has only recently begun to be felt, or that, having been felt, it has not been satisfied. The truth is that the zealous devotees of good learning among our youthful countrymen have been long accustomed to resort, and continue still in large numbers to resort, to the schools of higher learning in other lands for that superior instruction which they have not been able to find at home. There are probably now, among the officers of American colleges, numbers of men, eminent for learning or scientific skill, whose own personal education was completed in the universities of Continental Europe. There are no fewer than six of this class of men in our own College at this very time, and the number of the same class at Harvard is three or four times as great. These well-known facts furnish evidence sufficient, if it were wanted, to prove that the demand for instruction of a higher grade than our colleges supply is real, and that it has been long existent; and they not only justify the effort which some of our institutions are making to furnish such superior instruction, but impose it as a duty, upon any whose circumstances allow them to do so, to join in this effort.

There was a time in the history of this country when the dependence of our people upon the institutions of the Old World for all education above the elementary was as complete as it has more recently been for the highest. Before the Revolution, every man of means among the colonists felt it incumbent on him to send his son to the old country for that liberal culture which it

was believed could not then be found nearer than Oxford or Cambridge. The seven years' revolutionary struggle interrupted this, and the subsequent growth of American colleges of really substantial excellence soon made it no longer necessary.

The country had, however, hardly become emancipated from educational dependence in this form, before there began to grow up a similar dependence in another. With the rapid progress of scientific discovery early in the present century, and the multiplication at the same time of useful applications of science to the arts of industry, there arose a demand for a species of special scientific culture which could only be supplied by the universities and technological schools of France and Germany. The number of young men who have resorted to those institutions for education of this description from the United States in past years has been very great, and many even yet continue to do so. Within the past twenty-five years, however, schools of science have grown up in this country which provide very satisfactorily for instruction of this character, and our young men have no longer need to go abroad in order to fit themselves for the scientific professions. But for the great range of subjects which lie beyond the limit of the exact sciences, many of which are not embraced at all in the ordinary scheme of undergraduate instruction, while many others are taught in college only in their rudiments, we have scarcely as yet begun to provide. The efforts thus far made in this direction are seen in the creation of lecture courses for postgraduate instruction in a few of the older and better endowed of the colleges of our country. We see here the indication of a future system of university education of which the development and completion must be the work of time.

It is only by this process of gradual development that we can expect to see the university system establish itself among us. A fully appointed university is too costly an institution to be created by a single act of private munificence; and under our forms of government, state bounty is not likely to attempt what individual liberality cannot. We have, it is true, universities enough

in name, founded by beneficence both public and private; but none of these are universities in the sense in which the word is understood on the continent of Europe, and in none of them is there as yet proper university teaching.

The university system is destined nevertheless to establish itself in our country. It will do so because it must do so. It is the necessary culmination of a progress in educational affairs which has been going forward since the commencement of our national existence, and of which the recent progress has been encouragingly rapid. It will be the outgrowth of our existing college system. Our universities will be evolutions and not new creations. They will be formed by the expansion of the system of postgraduate instruction, now firmly engrafted upon many, whose example will be followed by many more. Such an expansion will take place, of course, only in response to a demand. The fact that it is taking place is evidence that the demand exists. And the college supplies it because it is able to do so at less cost to the public than would be required for the creation of a new and independent order of institutions. A well-appointed college has already the men who are capable of giving the instruction demanded, and the auxiliary appliances that are necessary to make the instruction thorough. Its permanence is already secured, independently of the greater or less attractiveness of the new fields of knowledge which it opens to the student; so that without the hazard of costly experiments it can adjust its teaching to the ascertained public want.

But of the very great number of colleges in our country, amounting in all to several hundreds, few can be said to be well appointed. Few, therefore, are likely to become universities, and, fortunately, few universities are needed.

It would not be difficult to point out at the present time a certain limited number of these institutions whose inevitable destiny it will be to be among those few. Some are indicated by their actual present condition, some by their geographical situation, and some by these causes combined. Columbia College

falls into this latter class. Her financial strength not only makes it possible for her to enter upon this superior field of educational effort, but imposes on her the duty to do so. The fitness of things requires that a great city like New York, the greatest on the American continent, and one of the two or three greatest in the world, should illustrate in all its institutions — educational, aesthetic, benevolent, or whatever else — the highest results of a perfected civilization. Here, if anywhere, opportunities should be thrown open to the seeker after knowledge, to pursue study or investigation in any department and to any extent he may desire. Such opportunities it will be the province, as it will also be the duty, of Columbia College, in the coming centuries, to supply. There is no other institution which can fulfill this function if she should fail to do so. It is idle to suppose that any other will be called into existence simply to take from her hands the duty which properly belongs to her.

We may assume it therefore as certain that Columbia College is to be the great university of this principal state of the Union, and this principal city of the western continent. Circumstances also indicate that the time has come when she should begin to address herself to the duties which such a prospective destiny and responsibility involve.

In doing this, there is no necessity for the adoption of any immediate measures involving materially increased expenditure. The formation of graduate classes is a natural and necessary consequence of the enlargement of the elective system in the undergraduate course. We have able professors whose power of usefulness is in a great measure lost to us for lack of opportunity. Trammelled as they are by a scheme which denies them time to make anything like a proper exposition of the subjects which they teach, they are forced to confine themselves, year after year, to a continual repetition of the same sketchy and necessarily imperfect outlines. Without any addition to our present academic staff, we could provide for lecture courses in philosophy, history, Greek and Roman literature, political economy, govern-

mental science, and other subjects which, though originally designed for undergraduates, would be attractive even to educated men. And thus postgraduate instruction, blended at first with the undergraduate, would ultimately acquire a separate and independent standing.

In the due course of time, provision will be demanded, and will be made, for the teaching of subjects not included in the present program. These may be introduced so gradually as not to entail burdens on the institution for which they will not bring with them compensating advantages in the increased attendance they will draw. Already a committee of the Trustees has recommended one such addition, in a proposal to create a department of comparative philology; and although the recommendation is still pending, it is believed that its ultimate adoption is not doubtful. But whatever may be the fate of this particular measure, or whatever the prospect that the College may early enter upon that higher course of educational effort to which the circumstances of the times so clearly invite her, it is no less certain that she will yet fulfill her manifest destiny, and probably, before the close of another century, will stand in the front rank of American universities.*

* Report for 1878-79, pp. 49-56.

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XVIII

COLUMBIA COLLEGE AS A UNIVERSITY

MAY 1, 1882

WITHIN the past twenty-five years, our College has very greatly enlarged the scope of its teaching and the sphere of its usefulness. During the year terminating in June, 1857, the total number of students matriculated in the College was only 143. All the instruction given was confined to the department of arts, and the number of professors and other instructors was only six. It may serve to convey some slight idea of the change which has since occurred, when it is stated that at the present time, in addition to the school of arts, there are in existence associated with it four flourishing professional schools, embracing more than thirteen hundred students, together with a Graduate Department, for high culture; the total attendance in all departments amounting to no less than sixteen hundred students, with about eighty instructors of various grades, and between twenty and thirty employees not engaged in instruction. The College has thus taken on the functions and assumed the aspect of an university. In popular parlance, the words college and university are so indiscriminately applied that it has become necessary to define the proper distinction between the two. Going back to the origin of the terms, we shall find that the university of the twelfth or thirteenth century was an educational institution established by decree of the supreme authorities of Church or State, and empowered to give instruction in the liberal arts, or in law, medicine, or theology; and also to license such of its own proficients as should satisfy certain tests prescribed by itself to become instructors likewise. It was this licensing power which became the distinctive characteristic of the university. The license was originally bestowed only on those whose purpose it was to become teachers in fact, and along with the license was imposed the duty of teaching in the university itself. The number of licentiates annually made was, accordingly, in the

early history of the university system, very small; being only sufficient to maintain an effective corps of instruction. The numerical strength of this corps was not indeed rigorously fixed, as it is usually in American colleges. Instructors competed with each other in the same field, and their emoluments consisted mainly of the fees of their students. The number was, therefore, as great as under this system could obtain for themselves subsistence, but it necessarily reduced the annual number of licentiates far below that of the students annually completing their course of instruction in the university. The time came at length when licentiates were made without being rigorously required to exercise actually the functions they were licensed to perform. Then the license ceased to be a burden, and became an honorable distinction, becoming known as it is to this day as an academic degree. It does not appear that during the prevalence of this system any person not duly licensed by the universities was at liberty to give instruction in the liberal arts or in the studies preparatory to either of the so-called learned professions at all. Certainly no one without such authority might open a school for that purpose. It was a commendable feature of the system that it recognized the educational career as a profession, which was as carefully guarded from the intrusions of the ignorant or inexperienced as were the universally acknowledged professions of medicine, law, or theology. In regard to these latter professions, these safeguards have continued to be maintained, and they are guarded in our own time with jealous watchfulness; but the vocation of the teacher has long since ceased to be a profession: it is open to all comers, and is often taken up as a *pis aller* by persons who feel their incapacity of success in the ordinary walks of business life.

The distinctive characteristic of the original university was, therefore, not the exercise of the teaching function, nor the nature of the subjects taught. Universities were sometimes established in a single faculty only, as a faculty of theology or a faculty of law; but they were not universities because they

taught theology or law or the liberal arts. Their distinctive characteristic was the power possessed by them exclusively to license teachers in all these departments of knowledge; and as these licenses came in time to be called degrees, it may be said at present, as in the mediaeval period, that, in a technical sense, all that is necessary to make a university is the possession of the degree-conferring power. It follows that as, in bestowing charters on colleges, our American legislatures have invariably accompanied the concession with the power "to give and grant any such degree or degrees to the students of said college, or to any other person or persons by them thought worthy thereof as are usually granted by universities or colleges now existing," all the more than four hundred chartered colleges of the United States, many of them differing only in name from schools for children of tender age, are equally clothed with university powers, and entitled to assume the honorable title of university.

The colleges, on the other hand, of England and the Continent of Europe were originally established to provide for the lodging and subsistence of the university students, without being intended to exercise any educational function at all. They gradually took upon themselves such a function, by making it their business to ascertain, by daily or less frequent examination, how faithfully their inmates were profiting by the teachings of the university. By degrees, in England, the colleges have arrogated to themselves all that is necessary to prepare the student to pass the examinations required to secure his degree; and it is entirely possible, and more than that, is a thing of frequent occurrence, for a student to graduate at Oxford or Cambridge without attending on the course of instruction given by any university teachers at all. It is the university, however, which holds the test examinations and confers the degrees. The power of the college ends with recommending its candidates to the examining board.

But, in the popular idea of our own time, the relation between college and university is by no means such as is here indicated. The distinction between the classes of institutions so designated

is understood to be one not of powers but of comprehensiveness. It is understood that, while the teaching of the college is confined within a pretty sharply defined limit, the teaching of the university has no definite limit at all; that while the college teaches only some things, the fully appointed university teaches everything; also that an educational institution approaches the ideal of an university in proportion as it transcends the narrow boundary which is supposed to define the proper province of the college. As these terms have gathered this kind of significancy in the popular mind, it is proper, or at least it is convenient, that in the use we may make of them, we should employ these in the same sense.

There is, however, a particular in which the university differs from the college, above and beyond the difference in point of comprehensiveness which is all that is involved in the popular conception. The university not only carries on indefinitely the intellectual work which the college begins, but it also bridges over, in a variety of directions, the wide gap which exists between the ideal world, which is the world of the college, and the actual world of busy life. It has been made a frequent reproach to the training given by the college, or to what is called a liberal education, that it is wholly impractical, and fails completely to fit a man for any career by which he may hope to gain his daily bread. Nay, it is even said that this kind of training not only fails to fit, but actually unfits men for the work of real life. It draws them gradually away into a world of abstractions, or of truths divested of all utilitarian associations (which it holds in contempt), so that when at last this species of culture has accomplished for them all that it can, they are even less well prepared to make their way in the world than they were before it began. To a certain extent, the imputation here thrown out is well founded; but it is not just on that account to regard it as a reproach. It would be truly a reproach, if it had ever been assumed for a liberal education that its object is to prepare men for the business of life. The object of liberal education is to make the

most that can be made of man as man, not as lawyer or physician or carpenter. This being the avowed design, there is implied in it by necessary consequence that when the culture has done its work the man will not be prepared to enter directly upon any special career or vocation, but that he will be capable of adapting himself promptly to such a specialty, and of pursuing it afterwards with a vigor and success which could only be the result of such a previous preparation. In this respect it is with mental as with physical training. As the muscular exercises of the gymnasium do not result in fitting a man, and are not intended to fit a man, to use with dexterity the carpenter's plane or the stonemason's chisel or the pavior's rammer, but have the effect of solidifying the frame and hardening the muscles and exalting the power of endurance to such a degree as to make it possible for one who has undergone them to become, after a suitable subsequent apprenticeship, a more effective carpenter or mason or pavior than he could otherwise have been, so the mental discipline imparted by the course of instruction in the college, without fitting its subject to enter immediately upon any specific calling, prepares him nevertheless to fit himself for engaging in any chosen department of human activity with a probability of success on which he could not otherwise have been able to count. It is not, therefore, a reproach to collegiate education that it is not practical. It is only a mistake to suppose that it ought to be practical. And those who have assisted to overload the college curriculum with subjects thrust upon it on the ground of their practical utility have only helped to pervert its original and legitimate design, and, so far as they have succeeded, to detract from its efficiency and impair its usefulness. But the error is not only to assume that the education of the college ought to be practical, but further to forget that the education of the college is not, and is not intended to be, the completion of the education of the man. There are two stages in this education. The first is subjective: it is to draw out the capabilities of the man himself without reference to any use that is to be made of him, or that

he may make of himself. The second is to adapt the capabilities so developed to that special line of effort into which the work of the coming life is to be directed.

The college is not therefore, in any proper sense, a finishing school. It is a very common error to regard it as such. The youthful graduate is very commonly spoken of as having "completed his education." In a certain sense, this is not wholly incorrect. His education is complete as individual man, but as social man it ought to be just about to begin. Those who forget that this supplementary education is yet to be accomplished commit an error which may draw after it serious consequences. This supplementary education in a large variety of forms it is the province of the university to furnish. It may not fulfill every demand of this nature which may be made upon it. If there are any who, after enjoying the benefit of a high intellectual culture, choose to apply the faculties so cultivated to mean and unintellectual pursuits, they will be obliged to find their supplementary education in the difficult school of experience, by serving a kind of preliminary apprenticeship to their selected calling. But to all those who purpose to fulfill the destiny which, in devoting the best years of their life to the acquisition of a liberal education, they have marked out for themselves, the university offers opportunities for passing from the ideal to the practical, from the general to the special, in many different directions; and thus speedily transforms the inexperienced thinker into the active and energetic worker. The university may therefore be described as a school of the professions; but it is more than that. If there are those who, without aiming at a professional career, feel an impulse urging them to devote themselves to the pursuit of truth, by research or investigation in any direction, the university provides them with the aids, the encouragement, and the instrumentalities for carrying out such a purpose also. Universities are therefore not merely schools of the professions, but they are at the same time the fountains and fosterers of the highest learning and the profoundest science of every kind.

It is true that all existing universities do not correspond to this description. The universities of England are not in any proper sense professional schools; and if it may truly be said of them that they foster learning, it has never been equally true that they are similarly propitious to science. They have produced some illustrious scientific men. Newton stands perhaps without a peer in the scientific annals of all time; yet the astronomy of Ptolemy continued to be taught in Newton's own University of Cambridge for a century after the publication of the *Principia* had created astronomical science anew. The universities of England have never made it their aim to open to educated men the way to any career of active life, unless it might be perhaps in the Church or in the field of statesmanship. They have furnished in the past centuries almost exclusively, and they do in the present very largely, the rulers of Great Britain; and the clergy of the establishment, including the whole House of Bishops, are recruited from their ranks. But the great jurists who have adorned the British bench or the British bar, and the eminent physicians who have shed luster on the medical science of England, have derived very little of their knowledge of law or of medicine from the universities; and of the great architects, engineers, naturalists, artists, and explorers, whose works or whose achievements constitute a large proportion of the national glory of the empire, not one can be said to have been made by these famous institutions. The British universities have, on the other hand, been rather administered in the interests of the aristocracy than of the people of England, and they have been adapted to the wants or the preferences of a class whose wealth lifts them above the necessity of labor, and who have no desire to be initiated into any professional career unless it be the political — a career which is not a profession, and for which no especial training is esteemed to be necessary. It is therefore quite true that the British universities are not universities at all, if we use the word in its modern popular acceptance; if we understand it to mean, as it meant originally, institutions possessing and exercising the power to confer degrees, they are, of course, entitled to the name.

The universities of Germany correspond more nearly to the popular idea. They are devoted to supplementary education exclusively and altogether. They do not concern themselves in the least with questions of mental discipline. Their object is not to form, but to inform, the mind. Constituting, moreover, as they do, the only channels of access to the liberal professions and to the civil service of the empire or of its component states, they possess a political importance which is not equally enjoyed by institutions of corresponding grade in other countries. The students (native to the country) who attend these great institutions come up from the *Gymnasias* and the *Realschulen*, which occupy the position and fulfill the functions of the colleges of our country. The course of instruction in the *Gymnasia* covers quite as much ground as that of the American college of the eighteenth century, and in its practical enforcement is believed to be carried out much more thoroughly than can with truth be asserted of many of our collegiate institutions. Hence one is a little surprised to find in an able article on this subject, by a well-known educationist, published in March, 1880, the stricture on the German university system that it leads to unsatisfactory results because the *Gymnasium* "does not carry the general culture high enough." There is another fault imputed by the same writer to this system which seems to be better founded. He says:

Everywhere in Europe, and nowhere more than in Germany, society is burdened with an unnatural and irrational aristocracy. Hence there is also an unnatural and irrational aristocracy of intellectual pursuits—unnatural and irrational because founded on tradition and not on culture alone. To this aristocracy belong the three traditional liberal professions, theology, law, and medicine, together with the professions of the scholar and scientific investigator. The so-called technical professions, equally intellectual—*i.e.*, requiring equal general culture—are denied the cognomen of "liberal," banished with scorn from the university, and compelled to seek refuge in separate technical schools. Thus thought and action, the ideal and the practical—a twain that should be joined in indissoluble marriage—are forced into unnatural divorce, to the loss and injury of both. On the one hand, the technical professions would be imbued with the lofty spirit of true culture, and thus elevated and ennobled into true liberal professions; on the

other, the culture of the university would be quickened and vitalized by the earnestness of men having practical ends in view. On the one hand, the general culture would create a soul under the dead ribs of the technical professions; on the other, the technical professions would give practical body to the too ideal culture of the university.

The exclusion of the technical professions from the university is a practical and economical error, which in our gradually developing American universities we have had the good sense to avoid; but it is certainly a mistake to attribute this exclusion in Germany to the unnatural constitution of German society, or to the existence of class distinctions among that people. The technical professions are not held in contempt because the occupations they offer are presumed to be unfit for noblemen. The prejudice against them, so far as it exists, is a prejudice which men of literary culture, not in Germany only but everywhere, feel toward pursuits to which the idea of a mercenary character in any way attaches. It is a feeling which those in whom it exists entertain as scholars and not as aristocrats. If it is not quite universal among scholars in our country, as perhaps it is in Europe, it is nevertheless widely prevalent, and its manifestations have been in many cases very clearly apparent to the observation of the undersigned. The venerable universities of Germany, many of them several centuries old, have been, from the earliest period of their history, in the undisturbed possession of the class of men distinctively known as the learned, men of a culture exclusively literary, as the only culture known, and whose minds were filled with the love of antiquity, or occupied with the abstruse speculations of the Aristotelian philosophy. These men have been rudely disturbed by the bold innovations of modern investigators of nature. A new world has been opened before them, of which the most striking characteristic is its complete discordance with all that has seemed to them hitherto to constitute the only knowledge valuable to man. The new truths have not been welcomed, but neither have they been uncourteously repelled. Their teachers have found admittance to the uni-

versities, on the ground that all truth is worthy of respect, and that every honest effort put forth for its discovery should rather be encouraged than repressed. But science commands consideration in the German universities only in its character as a body of truth addressing itself to the intellectual nature. What are called the technical professions are applications of science to utilitarian ends, and though their successful practice may exact the highest efforts of the intellect, their appeal is not to the intellectual but to the mercenary side of human nature. But if any tradition has been more persistently and consistently maintained from the earliest times down to the present, it has been the profound contempt of the man of letters for the lucre of gain. And such are the men who have always had possession of the universities of the Continent of Europe. So far, therefore, as science has presented itself in a character purely intellectual, it has received the hospitality of the universities; but at every point at which it has manifested a tendency to ally itself with the spirit of cupidity, it has been met by the scholar's dislike for the mean and mercenary, and contemptuously turned away. And this is the reason, and the only reason, that the technical professions are driven to take refuge in Germany in separate technical schools.

In our own country, though universities, in the full significance of that term, cannot be said as yet to exist, yet they are gradually growing up by the expansion, on the part of some of our colleges, of the sphere of their teaching in the upward direction. One form of this expansion consists in the creation of professional schools, and in this process there is no such invidious distinction made with us as that above noticed as occurring in the German universities. On the other hand, in some instances, the technical professions have been provided for where "the learned professions" are neglected; and the reason for this obviously is that the demand for well-educated men of these professions has in recent years been steadily growing, while in the others the supply has been fully up to the demand, if not in excess of it. In a single instance — the Johns Hopkins University —

the attempt has been made to assume the university form from the beginning; but this institution, like the others, maintains an undergraduate course, or school of the liberal arts, differing from them only in making this an inconspicuous feature of its system.

Among the colleges which have made the largest steps in advance in the direction of the higher development are Harvard, Yale, the College of New Jersey, and our own institution. Our School of Law, which was our first professional school, was opened just twenty-four years ago. Two years later the College of Physicians and Surgeons of this city became associated with us in an educational alliance as our School of Medicine. In 1864 was established our School of Mines, with the intention originally to confine its teachings to the object indicated by its name: that is, to the preparation of well-educated mining engineers; but, four years later, this design was enlarged by the institution of courses of instruction leading up to five different scientific professions: mining engineering, civil engineering, metallurgy, analytic and applied chemistry, and geology and palaeontology. To these, in 1881, was added a course in architecture. In 1880 was established our School of Political Science, designed to train men for the domestic or diplomatic civil service, or to prepare them to discharge intelligently such duties of public life as may devolve upon them as members of our state or national legislatures, as members of municipal councils, or as public journalists. And in the same year was instituted our Department of Graduate Instruction, which opens up for us in the future a prospect of constantly increasing usefulness. We have organized a course of instruction in the modern languages — the Romance, the Teutonic, and the Scandinavian — with the design not merely to afford, as is often the case in colleges, a few months' tuition in one of the other of these, for the purpose of imparting a more or less imperfect facility in translation, but to carry the student through a continuous course extending from the earliest undergraduate year into the Department of Graduate Instruction, if desired, and embracing not only a knowledge of the languages

as spoken or written, but also a critical acquaintance with the masterpieces of their literature. We have prescribed courses of study for the higher degrees of Master of Arts and Doctor of Philosophy, and have provided for the extension of the course of instruction in our School of Law to a third year, on the completion of which the students honorably proficient shall receive the superior degree of Master of Laws.

To a large extent, therefore, our institution has assumed the character of a university. This has not in any manner impaired its usefulness or diminished its attractiveness as a school for undergraduate instruction. On the other hand, in proportion as it has strengthened its professional schools and offered larger inducements to advanced students to come to us for that supplementary education which is needed after the training of the College is complete, in the same proportion the attendance in our undergraduate department has steadily grown. The same has been the experience of other colleges which, like ours, have surrounded themselves with professional schools, or have made provision for the higher instruction of graduates. In the annual report of the undersigned for 1880, facts were given showing that this had been the invariable result in every one of the American colleges which had entered upon this system of expansion in the direction of university teaching. And hence we may infer that, if we would desire to promote the prosperity and increase the usefulness of our undergraduate department most effectually and most rapidly, we should press forward as fast as possible the measures necessary to give to our institution the character of a completely appointed university.

What these measures should be may be easily discovered by considering where are at present our most obvious points of weakness. On the literary side, we need a department of comparative philology, and this need will soon be urgent. We have already many of the elements satisfactorily provided, out of which such a department will be able to gather the material for its work. We teach as well as could be desired all the languages

of modern Europe, except the Slavonic. We have provided for the Anglo-Saxon, the Icelandic, the Sanskrit, and the Zend. We are deficient as yet in regard to the Semitic tongues, but that imperfection will probably not be long of continuance. What we now want is a scholar profoundly versed in philology, who shall be able to point out the affinities of all these tongues, and to show how the languages of the nations have grown out of a single primitive stock. For that want, by resolution introduced into the Board of Trustees in the year 1879, it was proposed to provide; but the measure temporarily failed. As our department of graduate instruction gathers strength, it will become necessary to call it up again.

There is another want on the literary side which, no less for the sake of the undergraduate than of the graduate course, it is desirable to provide for to better purpose than is done at present. It has been for years found impracticable for any one officer, charged at the same time with heavy duties of class instruction, to direct the preparation of the English essays of the students of all the classes, to read and criticize carefully all those performances, and finally to communicate personally to each individual the results of such examination in such a manner as to impress upon the several authors the lessons to be derived from their merits or their errors. To burden the professor of English literature with the whole of this intolerable task has long been seen to be impracticable, except at the cost of destroying his usefulness in any other respect; and the work has, therefore, by authority of the Trustees, been for many years divided between several hands, the professor of English literature being charged with supervising the performances of only a single class. The critics in charge of the remaining compositions have been usually under the disadvantage of never meeting the classes whose performances they have been required to direct and criticize, except as they meet them one by one in the final personal interviews, when the compositions are returned to their authors, with comments. They are not, therefore, sufficiently acquainted with the

amount and character of the knowledge possessed by the members of the class to enable them to select the subjects proposed for these essays with proper reference to the probable ability of the writers to treat of them intelligently. This is a great misfortune, for in an exercise of which the object is to practice the learner in the proper use of language, rather than to provoke a display of learning or an exhibition of dialectic skill, it is in the highest degree desirable that the writer should possess first of all clear ideas of his subject, and should not be compelled to waste his time and strength in a laborious effort to find out something to say. It is another disadvantage of the present system that the student passes from year to year into the hands of a succession of critics, no one of whom is able to profit by the observation or experience of his predecessor, so that the methods pursued are discontinuous, and hence measurably ineffective. It would be greatly more advantageous if the same mind could watch over the performances of every individual from his entrance into college until his graduation. By this means a uniform and consistent system would be pursued from year to year, so that bad habits in writing and rhetorical blemishes, which in spite of repeated correction are often very persistent, would at length be broken down, and the ends which it is the object of criticism to accomplish would more certainly be attained. A single officer, if burdened by no other duty than that, perhaps, of giving instruction in the kindred subject of rhetoric, would be equal to this task; and by assigning it to such a one, relief would be afforded to several who are now engaged in it as something superadded to those duties for which they were originally appointed, and with which this is not in harmony. An illustration of the advantage which such a change would bring may be found in the fact that the graduation theses of the class which this year completed its academic course were found in several instances to contain faults which had been corrected in the performances of the same writers during their Freshman year; the officer who gave his assistance to the undersigned in the examination of these

theses having been the same who was in charge of those performances four years earlier, and who recognized this persistency in error through all the intermediate period. One fact like this is sufficient to demonstrate the degree to which the present system fails to accomplish the object intended.

Another of the present wants of our College on the literary side of its university teaching is a competent instructor or lecturer upon archaeology and ancient art. The widespread and constantly growing interest felt in this subject by all civilized peoples is attributable, no doubt, in a great degree, to the activity and success with which the ruins of buried cities of classic and Oriental antiquity have in late years been explored by enthusiastic scholars eager in the search for monuments which may throw light upon the most interesting period of the world's history. And as these researches have certainly stimulated the feeling, so the feeling has, by a natural reaction, contributed largely to encourage the researches. One of the striking evidences of this has been seen in the organization of an association of American explorers who, during the past year or two, have been engaged in excavations upon the site of Assos on the Gulf of Adramyttium, an ancient town, interesting on many accounts, among others as having been once the residence of Aristotle. The success of these explorations has been such as greatly to surpass expectations, and to bring to light many sculptures and remains of edifices of important historical interest. Another indication of similar character may be found in the movement now in progress, and already earnestly participated in by the leading scholars of our country, with the object of founding a school at Athens for the study of the history and the literature of Greece, with the design to train a body of young men properly qualified to engage in archaeological research. This project has enlisted the sympathies of the faculties and boards of trustees of a number of the leading colleges of the country, including our own, and has secured from the officers and alumni of those institutions sufficient assurance of pecuniary support to justify

the commencement of operations during the ensuing autumn. One of the most distinguished of the classical scholars of our country will assume the direction of the school for the first year, having received from the college to which he is attached a leave of absence to enable him to do so; and in the meantime it is hoped that means may be forthcoming for the proper compensation and support of a permanent head. The students in this school, it is also to be hoped, will be young men from our own country; and there is a probability that the American colleges may furnish a considerable contingent by the establishment of fellowships in letters with the condition that the holders shall pursue their studies, after graduation, in the American classical school at Athens. It is worth considering whether it would not be expedient for our College to add to the number of its existing fellowships an additional one with this end in view. Nothing certainly could tend to stimulate to a higher degree the spirit of emulation among our undergraduate scholars than the prospect that they might secure an appointment which would insure to them the means of spending three years in the midst of the most interesting scenes of classic antiquity, and after that become themselves perhaps distinguished laborers in the field of archaeological research. It is to be hoped, at any rate, that the creation of a department of archaeology will be among the earliest measures for the further development of our system of higher instruction, which may find favor with our Board of Trustees.

Another educational want for which we have yet made no provision is a department of modern art — the fine arts — of which we have an admirable type in the School of the Fine Arts founded at Yale College by the late Mr. Street. We have already introduced into our School of Mines a course of architecture, which, in one of its aspects, is counted among the fine arts, and is recognized and taught as such by the *École des Beaux Arts* of Paris. But in our School the subject is necessarily taught less from the aesthetic than from the practical point of view; and we cannot properly be said to teach architecture as a fine art at

all. There has been a great reawakening in recent years among our people of the feeling for Art — for High Art, as well as for Decorative Art. Indeed the feeling for High Art makes, by a sort of necessity, its popular manifestations through the wider extension and more general encouragement which we see given, year by year, to the cultivation of Art in its decorative forms; for these are within the reach of moderate means, while the works of High Art are very costly, and the love of the beautiful finds a gratification, if not the highest gratification, in such forms as it can command.

There are several schools of art in our city, though not one which adequately meets the need of the time. The Academy of Design maintains a school of which the regulations are unsatisfactory to many aspirants. Another is attached to the Cooper Institute, which is hardly a school of high art. A third has been instituted by the Metropolitan Museum of Art, more, however, for the cultivation of art as an industry than for the creation of accomplished artists. A fourth is self-supporting and independent, established by earnest devotees of art in the highest sense, who, finding in none of the existing schools the conditions favorable to the higher culture which they seek, have endeavored to create such conditions for themselves. This association possesses the characteristics of such an art school as should exist in connection with our College. It is believed that its members would willingly place themselves under our direction, without imposing upon us any financial burden, on the sole condition that they be furnished with the rooms necessary for the accommodation of their classes. Two rooms of moderate dimensions would suffice for this purpose, and in the prosecution of the scheme of building which has been commenced under the authority of the Trustees, and which is to be continued until all the available space upon the present site of the College has been occupied, it will not be difficult to provide these. It is to be considered that, in addition to the space which the completion of the plans already sanctioned by the Board will furnish, several thousand square feet

of floor surface may be secured by extending the proposed wings upon the south side of the block till they meet the Law Building and Library now in process of erection, leaving only archway entrances into the interior quadrangle. This will provide a very material enlargement of the space adapted to scholastic purposes contemplated in the present plans, and will furnish also accommodations peculiarly well adapted to the uses of a school of art. By uniting with our College the vigorous and flourishing association above spoken of, we shall add at once, without cost, to our scheme of higher instruction, a department which otherwise it will be found necessary to create at probably large expense, and we shall at once increase the number of students on our general roll by about one hundred and fifty.

In passing from the literary to the scientific side, it is to be noted, first, that the important subjects of ethnology and anthropology are wholly unrepresented in our scheme. These subjects, which together constitute what may be called the natural history of man, have been prosecuted in recent years with an activity and fertility of results which must be pronounced truly astonishing. By the careful study of the scattered bones, and especially of the skulls, found in cromlechs and other sepulchral monuments of extinct races, together with that of the rudely fashioned implements, weapons, ornaments, and other works of human hands found in similar situations, and by a comparison of these with the peculiarities of organic structure and products of skill of savage races still existing, a wonderful light has been thrown upon the condition, habits, location, and migrations of prehistoric man, of the lines of divergence of all existing peoples from a common central point, and the probable position of that spot on the earth's surface which was the original habitation of primitive man. The evidence furnished by these sciences is also in beautiful harmony with that derived from the study of comparative philology; and either alone would suffice to demonstrate, with conclusive certainty, that all Europe has been successively flooded by overwhelming waves of more or less savage nomads,

all belonging to that energetic Aryan race which holds in our own time the mastery of the civilized world.

The sciences of ethnology and anthropology should have an especial interest for us, since some of their most earnest and successful investigators have been our own countrymen. One of the earliest of these was Professor Samuel George Morton, of Philadelphia, who so long ago as 1839 published his able and original work on the *Crania Americana*, which was received throughout the scientific world with an admiration mingled with surprise. Later American investigators in the same field have been the late E. G. Squier, of this city, first president of the American Anthropological Society, to whom we owe the first thorough exploration of the numerous mounds of prehistoric antiquity so widely scattered over our western plains; also the late Lewis H. Morgan, of Rochester, whose studies of the history, affinities, usages, arts, and architecture of the aboriginal tribes of this continent and of their probable origin have been most laborious and exhaustive; to say nothing of men still living and hardly less distinguished, among whom may be mentioned Professor F. V. Hayden, formerly Director of the United States Survey of the Western Territories; Col. J. W. Powell, present Director of the Geographical and Geological Survey of the same region; Wm. Henry Dall, Esq., the author of recent reports on the orarian tribes of Alaska and the Aleutian Islands, the result of an exploration conducted under the auspices of the Smithsonian Institution; Professor Alexander Winchell, late chancellor of Syracuse University, who, in a recent work entitled *Pre-Adamites*, has presented in compact form one of the most able summaries of the present state of anthropological science which has yet appeared.

A science so interesting to all mankind, and especially one which owes so much to the meritorious labors of our own countrymen, must, sooner or later, have an expositor in this, the principal educational institution of the principal city of the western continent. A course of lectures upon the subject, when-

ever instituted, cannot fail to prove a most attractive feature in our scheme, since the number of those for whom the problems connected with the past history of man upon the globe has a peculiar fascination is very great.

Anthropology is but a single branch of natural history, though, considering the comparative dignity of its subject, it is one of special importance. But it is unfortunately the case that, in respect to all departments of this extensive subject, our provisions are equally imperfect. Zoölogy, botany, physiology, and biology are all unrepresented in our scheme of instruction. As these are subjects which are generally esteemed to be indispensable to a properly constructed program for any respectable educational institution, they ought to receive the earliest attention in proceeding to take steps to perfect our system. It is true that our professor of palaeontology is accustomed to give a brief outline course of botany and a similar course in zoölogy as the introductory to his proper subject; because, without some elementary notions in regard to these sciences, palaeontology would be unintelligible; but this instruction, besides being an unwarrantable burden upon this officer, to whom it does not properly belong, is only sufficient to tantalize a learner who really desires to acquaint himself with the sciences of organic nature, and cannot be said in any proper sense to constitute instruction in those sciences at all. Our sister institutions on all sides of us are provided in these matters with a completeness which puts us quite to shame. The College of New Jersey has a professor of natural history and three assistant professors; it has also a museum or laboratory for work in botany and zoölogy, and provides systematic lectures in these sciences, and graduate courses in biology and palaeontology, with no fewer than five instructors. The Johns Hopkins University has a department of biology, with a biological laboratory, provided with all the most perfect instrumentalities for experimental research, having at its head an accomplished professor who has the aid of five associates or assistants. Yale College has a professor of zoölogy,

with an assistant; a professor of comparative anatomy; a professor of botany; a professor of agriculture, who lectures also on arboriculture; and a lecturer on histology; besides an instructor in physiological chemistry. Harvard University has three professors of botany, with two assistants; a professor of arboriculture; a professor of entomology; a professor of physiology; and two professors, an instructor, and an assistant in zoölogy. This institution possesses also in its magnificent Museum of Comparative Zoölogy, founded by the illustrious Agassiz, and directed now by his hardly less accomplished son, a school for the practical study of zoölogy and physiology, which, for the advantages it offers to the learner, is unsurpassed and perhaps unequalled anywhere in the world. Of course it is impossible that our inferiority in these important departments of natural science can long be permitted to exist. In botany, especially, though we possess the most extensive and most valuable collection of dried plants in the country — a collection presented to the College nearly a quarter of a century ago by the eminent naturalist whose name it bears, and whose long connection with our College as professor and trustee is one of our most highly prized and cherished remembrances — yet during all this time it has not been brought into use in the instruction of our students, or made available to their educational benefit. Unless we shall soon have a distinct representative of the claims of botanical science on the list of our corps of instruction, it would seem to be most advisable — it would seem to be almost a duty — to place this valuable collection in some situation where it can be turned to account and made of practical use to somebody; for surely the thought cannot be tolerated that we should allow it to remain practically useless for another quarter of a century. Some time during the past winter a proposition was laid before the Trustees from the Metropolitan Museum of Natural History to allow the Torrey Herbarium, with its accompanying library, to be deposited in the fireproof building of that institution; the offer being made at the same time to allow to our professors and students

the free use of the lecture-rooms of the Museum and of the various extensive collections of zoology, ornithology, entomology, and other branches of natural history which the Museum contains. The Trustees declined the proposition, being moved to that decision, no doubt, by the consideration that the removal of the Herbarium would involve the possibility, if not the probability, of its permanent alienation; but for the avowed reason that it was their expectation soon to make the collection practically useful in the regular instruction given to our students in botany. In order that that expectation may be fulfilled, the appointment of a competent instructor in this branch of natural science is indispensably necessary.

Among the most serious deficiencies of our scheme of higher education on the scientific side are the want of a physical laboratory, with appliances necessary for the training of young men to methods of research, and also that of a similar laboratory for investigations in organic chemistry and gaseous chemistry. These wants, however, have been already prospectively provided for by the splendid benefaction recently assured to the College in the will of the late Stephen Whitney Phoenix. Mr. Phoenix was an alumnus of our College of the year 1859. His academic record shows him to have been distinguished as a student for preëminence in scholarship, and his subsequent life gave evidence of highly cultivated tastes and fondness for intellectual pursuits. He was one of the few men of generous impulses whose clear judgment enables them to see that the most effectual way to advance the cause of the higher education in the country is to employ such means as they may propose to set apart for that object in strengthening an institution which is already strong, rather than in laying the foundations of a new one which must necessarily be feeble. It is known that he took pains during his life to inform himself of the points in which, in the domain of exact science, this institution is most in need of help, and that he made the disposition of his estate defined in his will in accordance with that information. Could his example be followed by

some half-dozen more of our affluent alumni, or of our other fellow citizens who, without having the sentiment of filial regard to stimulate them, are yet animated by a desire to contribute to the progress of human enlightenment, all the deficiencies in our present of higher education, above signalized, would speedily disappear.*

MAY 7, 1883

In the last annual report of the undersigned, attention was drawn to the fact that, by the multiplication of the subjects taught in our College, by the establishment of professional schools, and of a Department of Graduate Instruction, and by the very great increase in the numbers of students matriculating in the different departments, our College had taken on the functions and assumed the character of a proper university. It falls far short, nevertheless, as was pointed out in the same report, of what a fully appointed university ought to be. It fails adequately to provide, in many branches of knowledge, the instruction for which there is and has long been a pressing demand; and in many others, which, though of a less general interest, are important to that limited class of persons whose devotion to literary and scientific research constitutes them the representatives of the highest intellectual culture of a people, it makes no provision at all. That these deficiencies will be supplied in the coming time cannot rationally be doubted. A nation of more than fifty millions of people preëminently distinguished for both mental and material activity cannot be permanently without educational institutions adapted to meet every want of the scholar, the philosopher, or the man of science. America will yet have her universities, offering advantages equal to those of the most celebrated similar institutions in other lands — universities attractive enough not only to deter the graduates of our own colleges from seeking their supplementary education elsewhere, but even to attract aspirants after knowledge from abroad. Such universities are not likely to spring up suddenly: they will be

* Report for 1881-82, pp. 27-51.

the matured fruits of a long and steady growth. They will probably be developed from germs originally planted in the form of colleges for undergraduate instruction, a development, however, which will only be possible to the few especially favored by circumstances. Of these Columbia College must manifestly be one. Especially favored in point of situation, and possessed of an endowment sufficient to guarantee stability and to attract additional benefactions to supply its wants as they successively arise, its manifest destiny is to expand in usefulness and strength, till it shall become the leading educational institution in the United States. Nor is it only in recent years that the conviction of this manifest destiny has impressed itself upon the mind of the undersigned. It was avowed in his first public utterance, pronounced many years ago, on assuming the responsibilities of his present position, when, in referring to those then recent measures which were the first steps of an enlargement of our educational scheme, since much more fully expanded and developed, he expressed his confident expectation that

our present beginning may be the means of drawing to us such aid from those to whom the prosperity of this College is dear, or who would not willingly see the institutions of this magnificent city inferior to those of many minor towns, as may enable us to present, as time advances, all the various attractions to seekers after knowledge which are necessary to complete the full ideal of a university.

And in the conclusion of the same address he anticipated, in a spirit of prophecy, the time when Columbia College should

become a repository of universal truth, a dispenser of universal knowledge, and a contributor to the discovery of new laws of nature and of new and more beneficent applications of those laws to the advancement of human society.

Such expectations and predictions seemed, probably, to those that heard them at the time, extravagant and visionary; but the day has come at last, and that without very long delay, in which they express the universal conviction, not only of the immediate

friends of the College, but of all the citizens of this great community. Of this fact, the reception given to the statement recently made public by the Trustees, in regard to the financial condition of the College, and of the inadequacy of its resources to its educational needs, affords most conclusive evidence. Without a dissenting voice the organs of public opinion have lent their emphatic and, in some instances, their enthusiastic support to the proposition that there should be built up in this city, and on the foundation presented by Columbia College, a great national university. This proposition is believed also to be looked upon with favor by many of our fellow citizens who possess the means to secure its realization. There is reason also for the belief that arrangements may be made by which the magnificent museums of art and natural history already in existence in the city may open their treasures to the students of the university, so that, while maintaining, like our School of Medicine, their corporate independence, they may, for educational purposes, be identified with it. It will not perhaps be the good fortune of the generation now active on the stage of life to see the realization of this grand idea; but if the progress of the next quarter-century should be no more than equal to that of the last, there are youths now living who will witness its complete fulfillment.*

* Report for 1882-83, pp. 37-39.

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XIX

GRADUATE DEPARTMENT

MAY 3, 1886

THE history of Columbia College naturally divides itself into three distinct periods, characterized severally by the extent of the educational operations carried on during their continuance. The first, which was much the most extended in duration, occupied about a century after the foundation of the College in 1754. The course of instruction during this period was confined mainly to the studies called *par eminence* disciplinary, viz.: Latin, Greek, and the pure mathematics. The only subject additional to these which was continuously provided for from the beginning was moral philosophy. The elements of the physics and chemistry were taught to a limited extent, and a little natural history was embraced in the prospectus, but was taught hardly more than in name.

It is true that, very early in the history of the College, there was opened by the corporation a School of Medicine, which was also revived after the Revolution and maintained a feeble existence down to 1810; but the total number of its graduates was not so much as one annually, although it must be recorded to its credit that the name of one of these was Valentine Mott. A chair of law was also created near the close of the last century, which was filled by a very eminent man, but the School of Law which began with him ended with him also. Notwithstanding, however, these occasional, and on the whole abortive, attempts to enlarge the scope of its educational operations during this centurial period, the institution remained practically, throughout its continuance, in the strictest sense a school of the liberal arts. This may therefore be distinguished as its *gymnasial* period.

The dawn of the second period in this history appeared in 1855, in the adoption of a resolution to appoint a committee to inquire into the actual condition and the past history of the scheme of instruction in the College, and to report such measures

as might seem to them to be best adapted to increase its efficiency. The committee appointed under this resolution went into a very wide range of inquiry, involving an examination of all the professors in the College, and answers to written questions addressed to eminent educators all over the Union, the body of evidence thus gathered having been published afterwards in a volume of 750 pages. The result was the adoption, in addition to the academic course, which was to be maintained as heretofore, of a scheme embracing a number of so-called university courses, to be conducted in some instances by non-resident professors, or professors belonging to other institutions. The scheme as a whole was too advanced for the popular appreciation, and it hence proved educationally and financially a failure; but one outgrowth of it survived, and achieved a signal success, of which we have an enduring and visible evidence today in the existence and celebrity of our present Law School. With the opening of this Law School, in 1858, commenced the second era in the history of our College, which may be called the period of professional schools. Two years after the commencement of operations in the Law School, negotiations were opened with the College of Physicians and Surgeons, the institution which, early in the century, had supplanted and practically extinguished the original Medical School of Columbia College, by which that institution became, for educational purposes, a branch of the College, an alliance which continues to exist. In 1864 the doors were first opened of the Columbia College School of Mines, of which, as the name implies, the original intent was to prepare a class of men to meet a demand then beginning to be lively, competent to direct the great mining industries of the interior and the western coast of this continent. The success of this School led early to an enlargement of the plan of its operations, and this tendency to expansion has continued to produce its effect until, from a single school, the School of Mines has developed to a cluster of seven schools, embracing mining engineering, civil engineering, metallurgy, practical

geology, analytic and applied chemistry, architecture, and sanitary engineering.

The third era in the history of our College, as yet the briefest of all, but destined to impress its distinctive character upon all future years, may be styled the period of university instruction. This dates only from the year 1880. In that year it was first publicly announced that advanced instruction would be given in a large variety of subjects of knowledge, embracing the classics, the mathematics, astronomy, chemistry, geology, mineralogy, history and political science, philosophy, the English language and literature, and the language and literature of French, German, Spanish, and Italian. In the same year was established the School of Political Science, which, though having some affinities with the School of Law, is not a professional school. Its subjects belong rather to what, in a German university, is known as the philosophical faculty, by which is meant, in that country, the faculty which teaches all subjects non-professional. The subjects taught in the first year of the School of Political Science are all of them to be found among the electives of the Senior year in the undergraduate department. Those of the remainder of the course in this School may properly be classed among the studies of the Graduate Department.

The Graduate Department, although destined doubtless, in coming years, to overshadow all the rest, is not expected to be of rapid growth. In its first year it numbered but six students. The number for the current (its sixth) year is twenty. Its steady growth in the future may be confidently predicted from the fact that, in each succeeding graduating class, there is an every-year increasing number of individuals who express a desire to go on to higher attainments, although all do not actually persevere, for the lack of means; and further, for the reason that there are, at this moment, and there have been at any time for many years past, some hundreds of graduates of American colleges pursuing studies in German universities, for the reason that they have imagined that equal advantages could not be found nearer home.

In past years it has seemed to be an impression almost universally prevailing among the young men graduating from American colleges with aspirations for making a career in a learned or scientific profession, or in the educational field, that a residence of one or more years at a German university was indispensable to anything like signal success. Among the instructors of our own College, for example, there are no fewer than nineteen who have had that experience. But with the large opportunities now offered on this side of the Atlantic, at such institutions, for example, as Harvard University, Yale College, the College of New Jersey, Johns Hopkins University, and Columbia College, this false impression is destined soon to disappear; and though, for some particular purposes, there will long be an advantage in study abroad, this will not be the case for that principal class of graduate students whose aim is to improve themselves in literary, historical, or philological studies, or the exact sciences. This is apparent from the increasing numbers of resident graduates whose names we see recorded in the annual catalogues of some of the institutions above named. Thus we find twenty-three at the University of Michigan, forty-one at Yale College, fifty-eight at Princeton, and sixty-four at Harvard University. Our own number this year is but twenty, but the colleges above named had no more so soon after these graduate courses were opened.

At our School of Mines there have been graduates in small numbers studying for higher degrees ever since its foundation. In that School the liberal policy was adopted, immediately after the graduation of its first class, of allowing graduates to receive instruction in the School free of charge for tuition. This policy had the advantageous effect of inducing many of the most gifted of our graduates to devote sufficient time to study, before going into the actual practice of a laborious profession, to perfect themselves in the sciences, and so to assure to themselves higher success in life and to their school a more honorable reputation in the world. When, in 1880, the Graduate Department was opened,

and a tariff of tuition fees was announced to be paid by students who might attend it, it was felt that consistency required that the graduates of the School of Mines should be subjected to the same rules as to this matter as those of the School of Arts. Hence the resolution was rescinded which granted free tuition to the former class of graduates.

It is the view of the undersigned, partly formed, it is admitted, in the light of experience, that it would have been more advisable to have secured the desired consistency rather by making tuition free to graduates of the School of Arts than by abolishing the privilege of free tuition which for the fifteen years preceding had been enjoyed by those of the School of Mines, without prejudice to any one and to their own great advantage. For the opening of the Graduate Department has not involved any additional expense to the corporation, not even so much as a single dollar. And as the growth of this department is certain to enhance so largely the reputation enjoyed by the College as an educational institution of a high order, it is quite worth while to forego the small amount which the tuition fees which these students will add to the general revenues of the College, at least till such time as the throng shall be so great as to give to this question an importance which it is far from possessing today. The undersigned, therefore, respectfully recommends that, henceforth and until further order, tuition shall be given to all graduates of this College, in any of its schools, entirely free of charge.*

MAY 2, 1887

Seven years ago the Trustees of the College adopted the first of a series of steps which are destined to transform the character of the institution, and to lift it to a plane superior to that of a mere gymnasial training-school, which it had previously so long occupied. Once before, the effort had been made to give to the College at once the character of an university. Thirty years ago, a new departure of this kind was attempted; but the

* Report for 1885-86, pp. 49-55.

change was too abrupt and too large, and it was too much in advance of the public sense of the educational wants of the day; hence its success was not encouraging. A series of measures was therefore resorted to, which, by giving progressive expansion to the scheme of educational operations conducted within the institution, has gradually led up to a point at which the transformation into a true university becomes natural and easy. With the original School of the Liberal Arts were associated, one by one, professional schools, beginning with the School of Law, established in 1858, followed by the School of Medicine by alliance with the preëxisting College of Physicians and Surgeons, in 1860; after which, in 1864, was added the School of Mines, designed at first for a special purpose, but which has since grown, without change of name, into a congeries of schools practically independent and no fewer than seven or eight in number. By degrees there subsequently arose a demand from a limited number of the graduates of these schools, or some of them, for more advanced instruction than was afforded by the regular curricula; and some imperfect provision was made for the instruction of graduates. In order to encourage graduate study, there were established, as early as 1872, a number of fellowships to be awarded to the most meritorious of the students annually graduating in the School of Arts, and these provisions had the effect to pave the way for the creation, by positive resolution in 1880, of an avowed department for the regular instruction of graduates, in which instruction is offered, and training in methods of research is given, in all the subjects embraced in the general educational scheme of the institution. In the establishment of this department, it was not by any means anticipated that it would immediately attract a large attendance. There was a demand for the advantages it offers, but the demand was not great, though steadily increasing. The first graduate class, in fact, in 1881, embraced but six students. The number for the present year, as appears earlier in this report, is thirty-two. The growth has been quite equal to the anticipation, and is altogether

encouraging. It is, moreover, quite legitimate to count in this department the students of the second and third years of the School of Political Science; since that School is not professional, and the students of those classes are graduates. There are forty-four of them in all, which number added to that just given, swells the total to seventy-six.

That this superior department of instruction must constitute hereafter the main business of the College becomes every day more obvious. The field is one which is not as yet in this city, or even in this country, adequately occupied. It is a field in which the importance of judiciously applied effort is every day growingly felt. Each year a constantly increasing number of young men are looking around for aids in the pursuit of knowledge superior to those which our colleges afford; and each year sees a larger and larger proportion of them, dissatisfied with the imperfect facilities which they find at home, resorting to the great universities of Germany to obtain what they need. The students of the University of Berlin alone number at present more than five thousand; and of these several hundred are temporarily expatriated Americans. Leipzig, Vienna, Göttingen, Heidelberg, Tübingen, Bonn, and many others, draw also their considerable quotas of our youthful countrymen. This deplorable exodus can only be arrested by providing here the attractions which are so abundantly offered in foreign lands. These attractions will unquestionably be provided here at home, and in this city will be provided by Columbia College. It is a noble and magnificent task which our institution has before her, and it is one which will hereafter throw into shadow all that she has accomplished in her past honorable history.

An indication that our Trustees are beginning to be awake to the urgency and the importance of this task is made manifest by the fact that there is now pending before the Standing Committee on the Course of Instruction a resolution which suggests the immediate adoption of energetic measures to lift the whole plane of instruction here to the level of the university standard.

The resolution even suggests, inferentially at least, the expediency of abandoning the undergraduate School of Arts entirely, and devoting the whole strength of the institution to its superior work. This, however, would be by no means a necessity. The maintenance of the inferior school would not in any manner interfere with the university system; while it might rather aid the latter by serving to it as a valuable feeder. It might aid it also in another way. Since to discontinue the undergraduate department would cut off the revenue now derived from it, the Trustees, in adopting such a measure, must be prepared to relinquish a corresponding amount of their present annual income. A better plan would be to retain this income, but to devote it to the maintenance of fellowships to be bestowed on promising young men pursuing university studies. It is by some such measure as this that the success of the university system can be most certainly and most expeditiously secured. The Trustees of the Johns Hopkins University have recognized this truth, and have acted accordingly. The gratifying success which has attended the efforts of that corporation to encourage university study in this country, has been unquestionably attained by the creation of twenty fellowships of the value of \$500 each per annum, to be freely offered to graduates of all colleges equally, and bestowed on the most meritorious among the competitors.

The undergraduate department of Columbia College yields a revenue of \$30,000 per annum. Were that wholly devoted to the support of fellowships, it would maintain no fewer than sixty; and the consequence would be the creation here of a nucleus which would draw around it in a very few years a student body rivalling in numbers some of the great universities of the European continent.

It is to be hoped that the committee who have in charge the resolution above referred to may see their way toward recommending, as the first and most efficacious step toward advancing this institution to the grade of a true university, the establishment of a fellowship system like this: a system which, if not embracing

at once so large a number as sixty, may at least be sufficient to compare favorably with the example set at Baltimore.

The value of the fellowship system, not only to the individuals directly benefited, but also to the scholarship of the country, may be estimated by considering the results which have been realized from the very modest provision of this kind made in our College some years ago. Under these provisions there have been appointed twenty fellows, of whom twelve have completed the terms for which they were appointed. All of these, with the single exception of one whose career was prematurely cut short by death, have made themselves honorably known in the world, as scholars or men of science. Four of them are college professors (including one in our own College). Six others are instructors in colleges, of grade below that of professor, but admirably qualified for the higher rank which they are sure to attain. One of them is an able and well-known writer in economics and social science. Three of them are Oriental scholars who may claim to be authorities, and one is an accomplished educationist and metaphysician, who has just been placed at the head of an institution in this city recently established for the purpose of trying an interesting educational experiment of novel character.

It would be too much to say that these men would never have been heard of, or that they would have failed to attain distinction, if they had not received the appointment of fellows in our College; but it is quite safe to affirm that the kind of distinction which they have attained has been due to the bent given to their energies by the course of study to which their appointment introduced them.

A more indirect, and not entirely anticipated consequence of this same system of fellowship appointments, has been the spontaneous growth here of an incipient School of Oriental Literature and Comparative Philology. Among our young scholars selected for distinction as fellows, it has happened that there have been several whose tastes led them to the study of the

Vedas, the Avesta, the Hebrew Old Testament, the Talmud, the Koran, and other books not usually sought except by students of the philosophy of language. These, having become members of our teaching body, as assistants in the classical departments, have voluntarily offered their services to aid others to follow the same difficult path which they had themselves pursued; and thus, without trouble or expense to ourselves, we have become possessed of the germ of a School of Philology which bids fair to reflect signal honor on the institution which has cherished it into life.

Very recently we have had an encouraging and flattering evidence that this promising beginning is not unappreciated by our surrounding fellow citizens. Several friends of education especially interested in Biblical learning, at a recent meeting of our Board of Trustees, presented to that body through the Reverend Rabbi Gottheil of Temple Emanu-El, a proposition to establish and maintain in the College a chair of Rabbinical Literature, which proposition has been received with gratification, and referred to a committee to arrange the terms of the endowment. This very generous offer, it is hoped, will prove to be an indication that the wants of the College are beginning to be understood, and that the possibilities of its usefulness are likely to be materially enlarged by future benefactions of a similar character.*

MAY 7, 1888

The growth of the desire for attainments superior to the grade of undergraduate study in this country has in recent years become very marked. A number of our higher institutions of learning have made specific provision for this class of students. If the disposition of our young graduates to resort to foreign universities for superior education has not ceased, it has to a great extent given place to a gradually growing preference for the opportunities offered by our own higher institutions for instruction of the same character. Johns Hopkins University has

* Report for 1886-87, pp. 44-50.

from the beginning devoted itself chiefly to this description of higher education. Harvard, Yale College, and also Princeton have been successful in attracting a large number of such graduate students, which for many years has been steadily increasing. Columbia College has more recently engaged in work of the same description and our experience here has corresponded with that of our sister institutions in a steady but slowly increasing attendance. The origin of this movement may be traced to the institution, nearly twenty years ago, of the system of prize fellowships, by which the desire was stimulated for advanced attainments in letters and science. Originally it was not contemplated that our prize fellows should receive instructions in the College itself. They were, on the other hand, encouraged to resort to foreign universities, and subject to no constraint as to the manner of prosecuting their studies, but the obligation to report the character of their work periodically to the president. As a rule, the fellows elected under this system became honorably proficient, and on their return from abroad obtained preferment to subordinate positions in instruction in our own College and elsewhere. After a time, it became obvious that it might be advantageous to make attendance at our College compulsory, while by this means we could secure the advantage of making of our fellows contributors to the service of the institution, by annexing them as assistants in the different departments. The Graduate Department was accordingly constituted in 1880, since which time it has received about twenty additions by appointment of fellows, which number has been considerably increased by voluntary accessions.

Simultaneously with the creation of the Graduate Department, there was established the School of Political Science, which is practically a school of graduate study, and of which the subjects are included in foreign universities under what is called the "philosophical faculty." The German universities are in fact practically schools of professional study. All our associated schools fall properly in the province of university instruction and

there is, therefore, in the inevitable drift of things, a tendency to concentrate our energies upon the Graduate Department. This has been so distinctly perceived by the Trustees that there has been a distinct effort made from time to time to convert Columbia College altogether into a school of postgraduate instruction. About thirty years ago, this effort assumed the form of a publicly declared purpose, and, after a very elaborate investigation, resulted in the constitution of a definite university organization. The time was not ripe, however, for so large a step of progress, and the effort failed to prove a success. Out of it, however, grew the Law School, which, meeting a well-ascertained public want, proved immediately successful and has been permanently maintained. Some years later the School of Mines appealed to a public want similarly ascertained, and was accordingly in like manner successful. The operations of the institution have in recent years extended over so wide a field that the original College has been entirely overshadowed, and a doubt has been raised whether its usefulness has not ceased. A resolution is now pending before the Board, inquiring whether it is not advisable that the whole scheme of education in Columbia College should be raised to a higher plane, and which involves the further question whether it is not advisable to discontinue the department of arts. So long as this question remains under discussion before the governing Board, it would not be becoming in the undersigned to pronounce an opinion upon it here. It may be permitted, however, to say in this place that if the question were merely as to the sufficiency and importance of the work proposed, there could be no doubt that our Faculties could find ample and adequate occupation if they were confined to giving instruction exclusively to graduate students. On the other hand, such has been the excessive multiplication of undergraduate colleges in our country in recent years, that the business of those colleges is greatly overdone, and it would certainly be a material benefit to the educational interests of our country, if a large proportion of the existing colleges could be suppressed. From sta-

tistics gathered by the undersigned in former years with great labor, it was made manifest that while in the last half-century the proportion of students in arts in American colleges has been gradually but steadily diminishing, the number of colleges has on the other hand more than correspondingly increased. Since about 1837 the population of the country has increased fourfold, and the number of colleges threefold, while the number of students in arts has in the meantime only doubled. In the country generally, the number of students under instruction at any given time is in a proportion of about one to two thousand or twenty-five hundred. In 1830 the average attendance on the existing colleges was sixty-seven each, and in 1880 about forty each. There is not a state in the Union in which the number of colleges is not greatly in excess of the educational needs of the population. This city itself may be taken as an illustration. New York has about a million and a half of inhabitants. It should be capable of furnishing, therefore, at the ratio of one to twenty-five hundred, six hundred undergraduate students in arts. This is not a number greater than could be comfortably provided for in a single college. Nevertheless, we have three, not counting the minor colleges under the care of the fathers of the Roman Catholic Church. It would not be therefore, educationally, a misfortune, if Columbia College should cease to exist as a school for undergraduate students. The city would still be fully supplied with educational advantages, while there could be no doubt that this institution could be more profitably employed by confining itself to the field of superior education. Whatever be the policy pursued in this matter, nevertheless it is the unavoidable tendency of things to press upon Columbia College more and more constantly from year to year the duty of providing for the wants of the superior class of students, that is to say, the business of proper university instruction. The location of the institution in the greatest city of the continent is peculiarly favorable to such an undertaking, and though the College is not possessed of funds sufficient to enable it to carry out this complete design, it is

hardly to be doubted that provision may sooner or later become sufficient to accomplish this object. One advantage which we already possess toward it consists in the Library, which, although incomplete in some details, goes far toward supplying the needs of students engaged in literary or scientific research, and this is a possession which in the nature of things must constantly improve in value.*

* Report for 1887-88, pp. 25-29.

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PART FIVE

FREE LECTURES

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XX

FREE LECTURES

MAY 3, 1886

FOR several years past there have been given at the College evening lectures, weekly or more frequently during a great part of the academic year, to which citizens in limited numbers have been invited, and which have been generally well attended. The lecturers have been professors of the College or School of Mines, or members of some of the scientific associations connected with the institution, or gentlemen of distinction invited by them. These have not been publicly announced, because the lecture rooms in which they have been held have not had sufficient seating capacity to accommodate a large audience.

More recently, however, the lecture rooms of the Law School, which will hold about three hundred persons each without crowding, and perhaps a hundred more by introducing movable seats and taking advantage of standing room, have been made available for a series of lectures given by day at a convenient hour on Saturday mornings, and notice has been given of them in advance in the papers of the day, but without any effort to draw public attention by advertising displays. To guard against overcrowding, it was thought advisable to issue tickets of admission, and the precaution proved a wise one; for applications for such tickets were received in numbers two or three times in excess of the accommodations, and the interest rather increased than diminished during the progress of the course. The first six lectures were by Professor Boyesen, on modern foreign literature, including sketches of the works of contemporaneous writers of France, Germany, Scandinavia, and Russia, and not only of the works, but of the writers themselves, with most of whom the lecturer has had the advantage of being personally acquainted. The subject of the lecturer who succeeded Professor Boyesen — Dr. Nicholas Murray Butler — was one which, though of great philosophical and practical interest, was supposed to be likely to

attract rather the thoughtful few than the curious many; it was "Paedagogy; or, the Science of Education." The result was, however, very different and very singularly so; for the demand for tickets rose in a few days to the extraordinary number of two thousand. After the first of these lectures had been given, moreover, letters to the number of two hundred were received by the lecturer, asking information as to the bibliography of the subject and instructions for reading. In the physical impossibility of replying to all these inquirers in writing, Dr. Butler prepared lists of the books on the subject most easily to be procured and distributed them among the audience at the lecture next following. It was the design that this course of lectures should extend like the preceding to six in number, but the near approach of the final examination caused a postponement of the continuation until after the resumption of exercises in the autumn.

Large numbers of the gentlemen and ladies who were present at all these literary entertainments expressed very warmly their hope that they might be made a permanent part of our plan of educational operations, regarding them as not only a valuable means of diffusing knowledge among the people as well as among the students, but also as certain to increase in an eminent degree the interest taken in the institution itself and the appreciation of its usefulness by the surrounding community. There would be no difficulty in finding among the members of our several faculties lecturers enough to keep up these exercises throughout the year. But if this is attempted, as it is greatly to be desired it should be, there would be a difficulty in meeting the reasonable expectations of the public for want of a hall of sufficient dimensions to receive the audiences which these interesting literary exercises would attract. Perhaps such a hall might be provided by the removal of the partition wall which divides at present the two large lecture rooms of the Law School and replacing it by some kind of sliding or folding doors. Should this be found impracticable, there would still remain the possibility of using some one of the large assembly halls in the lower part of the city,

though the adoption of that expedient would entail an annual expense of some \$2,000 or \$3,000. An offset to that expense might of course be secured by charging an admission fee, but this would give a mercenary character to the undertaking which it is desirable to avoid. During the progress of the recent experiment, it has been a subject of pride to all connected with the College that we have been making a free contribution to the entertainment and the instruction of the public, and that our efforts have been so largely and so gratifyingly appreciated.*

MAY 2, 1887

During the academic year 1885-86 there was inaugurated experimentally a system of free public lectures to be offered to the public weekly on Saturday mornings, the lectures being voluntarily given by members of the corps of instruction. The experiment was made under favorable circumstances; for in the first place, the College is so unfortunate as to possess no lecture hall of dimensions sufficient to receive a popular audience; and secondly, the lecturers were without means to give notice of the times and of the subjects of their lectures, except by advertising or by issuing tickets at their own expense. In their desire, however, to serve the College by impressing the public mind with a sense of its power of usefulness, and of its disposition to be useful, not only to young men under scholastic training, but to the people at large, they submitted to this tax, and a series of eight lectures was given in the lecture halls of the Law School on as many Saturdays during the spring of 1886. The success was beyond all anticipation. The halls, altogether too small for the purpose, were constantly filled to overflowing, and would have been had their capacity been twice as great. The approach of the final examinations of the year put an end to the course in May. It was resolved, however, to resume it on the reassembling of the College in the autumn; but, considering the very obvious advantage to the College from the maintenance of a system so

* Report for 1885-86, pp. 55-58.

generally acceptable, it was hoped the Trustees might be willing to make provision for defraying the inconsiderable but unavoidable incidental expenses attending it. As soon, therefore, as a proper program could be arranged, an appropriation for the purpose was sought, which was granted at the December meeting of the Board in 1886. The lecture course commenced on Saturday, January 8, 1887, and has been kept up without interruption to the present time.

Hardly had the course been commenced, than an unexpected embarrassment arose. A larger number of lectures were offered than there were Saturdays available during the remaining portion of the scholastic year. Some of these were disposed of by providing a secondary course of afternoon lectures on Thursdays. Others were necessarily declined, or postponed for delivery in a future year.

The lecturers have not all been College officers. In a number of instances literary gentlemen of established reputation having offered to contribute to the course one or more lectures freely; and their offers have been accepted so far as the limitations under which we have been operating have permitted. We have thus had lectures from Mr. E. S. Nadal, Mr. W. H. Bishop, the Reverend Mytton Maury, and Dr. Titus M. Coan; and we should have had several others, had not the time been previously engaged by our own officers. Of these, Professor Charles Sprague Smith has given five lectures; Mr. G. A. Scribner, five; Dr. B. F. O'Connor, two; Dr. N. Murray Butler, two; Dr. H. T. Peck, one; and Mr. D. K. Dodge, one. The subjects of the lectures have been very various — literary, archaeological, descriptive, psychological or paedagogical, and classical; and probably the course has owed something of its sustained interest to this variety. That the interest has been well sustained is made manifest by the many and warm expressions of indebtedness to the College, which have been addressed to the undersigned, by many of those who have habitually attended the series, among whom have been ladies as well as gentlemen of high culture.

Similar expressions of appreciation have also been heard from the press of the city, which, as is well known, usually occupies itself much more with the affairs of educational institutions at a distance than with those of Columbia College. Yet this lecture course has elicited in several quarters highly complimentary notices, of which the following, which appeared only a few weeks ago in a prominent evening journal, may be taken as a sample:

The rush of a great commercial city is apt to drown the voice of the muses. How many of our readers are aware that every Saturday morning at Columbia College a course of lectures upon literature and history is free to the public? They are by various lecturers, the hour is 11:30 A.M., and the place is the lecture room of the Law building. Next Saturday, for instance, the lecture is by Dr. Titus Munson Coan, upon "The Poetry of Wordsworth"; on the 16th and 23rd, Dr. B. F. O'Connor will tell about "The Song of Roland"; on the 30th, Dr. H. T. Peck will consider "The Argument against Classical Study." These lectures, which are given weekly from January to April inclusive, would be a prominent feature in the intellectual life of perhaps any other college city in America. It is, of course, much too soon to compare them to the public courses at the Sorbonne and the College of France, in Paris, which are still, after centuries of frequentation, one of the most attractive features of the most attractive city in the world. None the less our American Sorbonne is forming itself in East Forty-ninth Street. These lectures are of real interest and value; and some of our wealthy men would not go amiss if they would provide a lecture room for their better accommodation. There are other courses of lectures given there which are also open to the public. In that of the Chemical Society of the School of Mines, connected with the college, Dr. John S. Billings's recent lecture on "Moulds," illustrated with lantern views and specimens, gave much curious information. In the course before the Columbia College School of Library Economy, Mr. Geo. Haven Putnam gave, on Saturday last, an interesting lecture upon "Literary Property from the Point of View of the Publishers." This will be followed by two lectures on "A Course of Reading," by Prof. R. C. Davis, Librarian of the University of Michigan; one on "Methods of Studying Literature," by Prof. Guillaume A. Scribner, and one on "Bookbuying and Bookbinding," by A. R. Spofford, LL.D., Librarian of Congress.

Columbia College numbers, in all its departments, more students

than any other college in the United States; the fact of its being in the largest and busiest city of the New World should not be allowed to obscure the scope of the work that it is doing. Surely these lectures are as well worth knowing about as the details of unimportant events. We commend them, and especially the course first mentioned, to such of our readers as may be interested in this very significant growth of culture among us. They mark a point in the slowly-accomplished transition of our community from material to intellectual interests.

It is here assumed that a scheme which has hitherto been regarded only as an experiment is an established part of our permanent educational system; and so it is evident we must now consider it. It has been too complete and admirable a success to be abandoned. It is a success not only in the respect that it serves as an effective means of diffusing knowledge among the people, and of affording rational entertainment and solid instruction to the surrounding community, but as steadily drawing the attention of our fellow citizens to the College, exalting their convictions of its usefulness, and awakening their sympathies in its behalf and stimulating their interest in its growing prosperity and their ambition for its higher development. On these accounts it is desirable not only that the system should be maintained, but that it should be expanded and made from year to year a more and more conspicuous feature in our educational scheme.

This conclusion forces upon our attention, however, the unfortunate fact that we are without any hall of assembly of such capacity as the satisfactory conduct of a system of popular lectures demands. The halls of the Law School will scarcely accommodate in their permanent seats more than about 250 hearers; and though these have been supplemented by the introduction of camp stools, this expedient hardly suffices to provide for more than 50 in addition. On some occasions, numbers have remained standing through the hour, and the crowds have invaded even the steps of the speaker's platform.

The immediate and pressing want of the College is therefore an adequate lecture hall; and it is a rather melancholy reflection that, while this want is so obvious and so urgent, it is impossible

for us to turn to our fellow citizens for help in this exigency with any confidence that our appeal will be heard. In this respect, the case of Columbia College seems to be exceptional. Sister institutions, on the right hand and on the left, have, during the past twenty years, been flooded with rich gifts; their grounds are dotted all over with buildings bearing the names of their generous benefactors; Columbia alone has been hitherto overlooked by the living, and forgotten in their testaments by the liberal-minded capitalists who have passed away.

Not very long ago, the president of one of our more fortunate sister institutions, being on a visit to our grounds, pointing to the dilapidated edifice which, twenty years ago, was all that there was of Columbia College, inquired: "When are you going to take that away and put something better in its place?" The reply of the undersigned was: "We are waiting for the financial tide to rise." "There," rejoined the visitor, "is where we have the advantage of you. When we want a new building, we tell our alumni, and they give it to us."

When the day shall dawn, if it shall ever do so, in which the Trustees of our institution may be able truthfully to make the same remark, a new era will open on Columbia College, and she will go on rapidly to fulfill that manifest destiny which is certainly before her, and which will make her sooner or later the leading university upon the Western continent.*

* Report for 1886-87, pp. 39-44.

APPENDIX

ONE of the embarrassments attending a statistical inquiry like that which has occupied a portion of the foregoing pages, arises from the fact that the imperfect data which exist relating to the earlier years, are scattered through periodical journals, and are found with difficulty. In order to facilitate future reference and comparisons, the tables referred to in the foregoing report are here brought together in the form of an appendix.

TABLE I

UNDERGRADUATES IN ATTENDANCE IN THE COLLEGES OF NEW ENGLAND, AND IN UNION COLLEGE, NEW YORK, FOR THE YEAR 1826-27, ARRANGED ACCORDING TO THE STATES FROM WHICH THEY CAME. FROM THE AMERICAN QUARTERLY REGISTER

1826-27 Colleges	Maine	New Hampshire	Vermont	Massachusetts	Connecticut	Rhode Island	New York	Other States	Foreign	Total in Colleges
Harvard.....	3	5	...	170	1	3	3	11	3	199
Yale.....	...	3	3	49	150	3	45	76	6	335
Dartmouth.....	1	97	30	30	2	..	4	1	..	165
Bowdoin.....	86	7	1	13	3	..	..	..	..	110
Middletown .....	..	..	48	5	4	..	20	10	..	87
*Vermont .....	..	4	47	..	..	..	4	3	..	58
Williams .....	..	1	4	51	6	..	18	5	1	86
Amherst	1	10	10	109	29	..	2	9	2	172
Waterville	39	4	3	4	1	..	...	..	..	51
Brown.....	3	1	...	54	2	28	..	7	2	97
Washington .....	..	..	2	3	20	3	4	15	1	48
†Union.....	6	6	8	17	18	..	139	40	..	234
Totals.....	139	138	156	505	236	37	239	177	15	1642

* Catalogue for 1825-26.

† In the original tables, the totals only are given for Brown and Washington (Trinity). The distribution by states for these colleges has been made, by adopting the proportions found actually to exist in catalogues of the same colleges of somewhat later date. Union college was not embraced in the original table. As it was the college most resorted to out of New England by students from the New England states, it was thought desirable to add it. The particulars necessary for this purpose have been kindly furnished by President AIKEN.

TABLE II

UNDERGRADUATES IN ATTENDANCE IN TWENTY-FIVE OF THE PRINCIPAL COLLEGES OF THE UNITED STATES, INCLUDING ALL OF THOSE OF NEW ENGLAND, FOR THE YEAR 1898-9, ARRANGED ACCORDING TO THE STATES FROM WHICH THEY CAME.
PREPARED BY JAMES D. BUTLER, STUDENT IN 1899 IN THE ANDOVER THEO. SEMINARY, FOR THE AM. QUARTERLY REGISTER

	Total	Maine	N. Hampshire	Vermont	Massachusetts	Rhode Island	Connecticut	New York	New Jersey	Pennsylvania	Delaware	Maryland	Virginia	North Carolina	South Carolina	Georgia	Alabama	Mississippi	Louisiana	Tennessee	Kentucky	Ohio	Indiana	Illinois	Missouri	Michigan	Arkansas	Florida	Wisconsin	Texas	Dist. of Col.	Foreign
Bowdoin	113																															1
Waterville	101	56	2		4	14	1	2																								
Dartmouth	301	12	182	92	34	14	1	8																								
Univ. of Vermont	123	102	2		74	53		15																								
Middlebury	123	53	3		74	3		26																								
Harvard Univ.	57	1	11	29	2	1	1	4																								
Yale	216	3	15	1	101	1	1	11																								
Harvard	189	1	1	1	1	1	1	1																								
Williams	189	1	1	1	1	1	1	1																								
Amherst	189	1	1	1	1	1	1	1																								
Brown Univ.	189	1	1	1	1	1	1	1																								
Fale	411	2	10	0	57	5	158	80	7	21	4	3	5	2	2	1	5	5	3	3	2	12	2	1	1	1	5	1				
Washington	81	3	3	2	14	1	21	39	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1					
Wayan U.	103	3	3	3	14	1	21	39	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1					
Univ.	103	3	3	3	14	1	21	39	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1					
Oberlin	115	1	4	2	9	15	1	45	2	38	4	14	21	13	5	2	6	13	3	4	2	3	1	1	1	1	1					
*Hamilton Inst.	72	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1						
New Jersey	237	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1						
Jefferson	147	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1						
West Tenn.	55	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1						
Univ. of Tenn.	55	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1						
Western Reserve	45	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1						
Hamilton Col.	82	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1						
Geneva	41	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1						
Univ. of Penn.	105	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1						
Univ. of Va.	247	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1						
Totals	3,588	168	271	286	623	60	278	782	81	281	7	41	219	22	44	34	58	22	22	36	13	140	4	9	2	25		2	1	1	18	44

* This is a literary and theological institution not possessing a proper collegiate character, and seems to be out of place here.

TABLE III

UNDERGRADUATES IN ATTENDANCE IN THE COLLEGES OF NEW ENGLAND, AND IN UNION COLLEGE, NEW YORK, FOR THE YEAR 1855-6, ARRANGED ACCORDING TO THE STATES FROM WHICH THEY CAME, PREPARED FOR HENRY BARNARD'S AMERICAN JOURNAL OF EDUCATION, BY REV. J. N. TARBOX

	Alabama	Arkansas	California	Connecticut	Delaware	Florida	Georgia	Illinois	Indiana	Iowa	Kentucky	Louisiana	Maine	Maryland	Mass	Michigan	Missouri	Mississippi	New York	N. Hampshire	N. Jersey	N. Carolina	Ohio	Penn.	R. Island	S. Carolina	Tennessee	Texas	Vermont	Virginia	Wisconsin	D of Columbia	Canada	Other Countries	Total		
Amherst Col.	15	4	..	3	..	1	6	..	113	1	34	20	..	2	5	6	1	1	1	..	1	1	217	
Bowdoin Col.	..	..	..	..	..	..	..	..	..	1	..	1	154	..	65	1	1	1	18	12	..	1	16	..	89	..	..	..	..	..	..	..	..	..	186
Brown Univ.	12	1	..	4	2	1	1	3	..	4	..	40	1	1	1	16	12	..	1	16	..	1	1	1	1	..	2	222	
Dartmouth Col.	..	..	..	3	..	..	..	1	3	1	2	..	11	..	38	1	1	..	16	12	..	1	16	..	1	..	..	..	38	1	1	1	1	..	258
Harvard Col.	2	..	..	..	..	..	3	..	1	1	3	5	5	10	258	3	..	..	28	18	1	1	5	5	1	3	5	..	53	3	2	2	..	1	966
Middlebury Col.	..	..	..	2	..	..	..	..	..	1	..	..	5	5	..	..	..	..	8	5	1	1	1	1	1	..	..	..	17	..	..	..	..	..	75
Norwich Univ.	1	..	..	..	1	..	..	..	2	..	..	1	11	2	35	2	..	..	8	5	1	1	1	1	1	1	..	..	1	1	1	1	1	1	83
Trinity Col.	..	..	..	22	2	..	..	..	..	1	..	3	8	..	10	..	..	..	14	6	2	3	3	3	2	1	..	..	1	1	1	1	1	1	72
Tufts Col.	..	..	..	..	..	..	..	1	..	..	..	..	..	..	1	..	..	..	12	1	..	..	1	..	1	..	..	..	79	..	..	..	..	103	
Univ. of Vermont	..	..	..	1	..	..	..	..	..	1	..	..	54	..	4	..	..	..	12	1	..	..	1	..	1	..	..	..	1	1	1	1	1	1	61
Waterville Col.	..	..	..	..	..	..	..	..	..	..	..	..	24	..	2	..	..	..	35	9	6	..	1	4	3	..	..	..	..	..	..	..	..	1	116
Wesleyan Univ.	1	..	..	22	..	..	..	..	1	..	..	..	..	..	69	2	..	..	2	79	2	6	9	9	9	..	..	..	12	1	1	1	1	1	123
Williams Col.	15	3	59	2	6	12	117	6	12	..	2	9	9	1	1	1	1	1	1	1	472	
Yale College	1	..	1	125	1	3	6	..	1	11	12	5	5	5	2	6	12	117	6	12	22	45	3	1	1	1	1	1	1	1	1	1	1	5	472
*Union College	2	5	6	3	1	2	1	16	215	4	3	..	6	14	1	1	1	7	3	2	2	2	1	308	
Total	5	..	3	222	9	2	11	21	6	10	20	24	278	17	696	9	12	16	575	237	31	10	79	106	82	7	4	3	230	9	10	7	18	25	2794		

* The numbers for Union college, which were not contained in the original table, have been furnished by the polite attention of President Aiken.

TABLE IV

UNDERGRADUATES IN ATTENDANCE IN ONE HUNDRED AND THREE COLLEGES OF THE UNITED STATES, IN THE YEAR 1869-70 OR 1868-9, SHOWING THE NUMBER PRESENT IN EACH FROM THE NEW ENGLAND STATES, AND FROM NEW YORK, NEW JERSEY AND PENNSYLVANIA

Colleges	Maine	N H	Vermont	Mass.	R I.	Conn.	N. Y.	N. J.	Penn.	Other States	Students of Arts	Total of all descriptions
Bowdoin, Maine, 1869-70.....	118	2	.	5	.	.	1	.	.	6	132	237
Colby, " " " " " "	43	.	.	1	.	.	.	.	.	1	45	52
Bates, " " " " " "	60	10	.	3	.	.	.	.	.	2	76	77
Dartmouth, N. H., " " " " " "	9	119	70	30	1	3	16	3	38	289	418	
Middlebury, Vt., " " " " " "	.	1	38	1	.	1	11	.	.	3	54	54
Univ. of Vt., " " " " " "	.	.	40	1	.	.	3	.	.	1	122	122
Harvard, Mass., " " " " " "	16	16	4	372	6	2	51	2	19	75	563	1,107
Williams, " " " " " "	.	.	5	43	.	4	63	13	3	28	159	159
Amherst, " " " " " "	12	6	10	118	2	19	37	3	9	39	255	255
Tufts, " " " " " "	6	.	6	34	1	.	3	.	.	.	50	63
Brown, R. I., " " " " " "	.	5	3	33	8	8	6	2	6	11	159	197
Yale, Conn., " " " " " "	8	4	2	42	2	146	129	20	42	123	518	736
Trinity, Conn., " " " " " "	2	.	4	4	2	25	15	2	6	26	83	93
Wesleyan, " " " " " "	8	6	6	32	2	19	41	14	6	19	153	153
Columbia, N. Y., " " " " " "	.	.	.	.	.	.	114	15	.	.	120	772
Union, " " " " " "	1	.	1	.	.	1	77	1	1	5	87	114
Hamilton, " " " " " "	.	.	.	.	.	.	138	.	3	19	160	164
Madison, " " " " " "	1	.	7	3	1	.	59	11	2	16	100	162
Hobart, " " " " " "	.	.	.	.	.	1	40	.	3	10	54	80
Genesee, " " " " " "	.	.	.	.	.	1	30	.	1	1	32	66
N. Y. City Univ., " " " " " "	1	.	.	1	1	1	26	13	.	2	45	436
Rochester, " " " " " "	.	.	1	4	.	1	83	4	3	11	107	115
N. Y. City College, " " " " " "	.	.	.	.	.	.	.	.	169	170	768	768
St. Stephen's, " " " " " "	1	.	.	.	.	2	49	3	5	9	69	69
Cornell, " " " " " "	.	.	.	.	1	1	29	5	5	10	46	563
Alfred, " " " " " " 1868-9	.	.	.	.	3	.	23	1	7	35	363	363
Princeton, N. J., 1869-70....	.	1	.	.	.	2	38	104	82	97	324	328
Rutgers, " " " " " "	.	.	.	.	.	.	40	61	2	2	105	151
Univ. of Penn., Penn., 1868-9.	.	.	.	.	.	.	1	7	114	3	125	852
Lafayette, " " " " " "	.	.	.	1	.	1	4	28	112	21	167	176
Dickinson, " " " " " "	.	.	.	.	.	.	1	5	46	33	85	138
Franklin and Marshall, " " " " " "	.	.	.	.	.	.	.	.	69	3	72	130
Haverford, " " " " " "	.	1	.	.	.	.	3	1	32	15	52	52
Allegheny, " " " " " "	.	.	.	1	.	.	4	.	63	23	91	141
Muhlenberg, " " " " " "	.	.	.	.	.	.	.	.	41	2	43	191
Pennsylvania, " " " " " "	.	.	.	.	.	.	2	.	78	18	98	178
Lewisburg, " " " " " "	.	.	.	.	.	.	.	7	53	1	61	121
Western Un. of Pa., " " " " " "	.	.	.	.	.	.	.	.	35	1	36	240
Westminster, " " " " " "	.	.	.	.	.	.	3	.	63	21	87	253
St. John's, Md., 1869-70 ....	.	.	.	.	.	.	.	.	.	37	37	225
Washington, " " " " " " 1868-9	.	.	.	.	.	.	.	.	.	43	43	43
Columbian, D. C., 1869-70 ..	.	.	.	.	.	.	.	.	1	42	43	430
Georgetown, " " " " " "	.	.	.	.	.	.	.	.	.	37	37*	106

* The scientific and classical students together number 73, but are not distinguished in the catalogue. It is assumed that each class is one half the total.

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TABLE IV. — Continued

Colleges	Maine	N. H.	Vermont	Mass.	R. I.	Conn.	N. Y.	N. J.	Penn.	Other States	Students of Arts	Total of all descriptions
Univ. of Va. Va. 1869-70	191	191	465
Washington	1	..	..	5	1	2	332	341	341
Hampton-Sidney, "	76	76	89
Emory and Henry, 1868-9	80	80	186
Richmond, "	131	131	186
Roanoke, "	61	61	185
Bethany, W. Va. "	1	1	..	12	91	105	372
Davidson, N. C., 1869-70	113	113	125
Univ. of S. C. S. C. "	153	153	108
Univ. of Geo. Geo. "	163	163	344
Emory, "	110	110	213
Mercer, Geo., 1868-9	69	69	84
Univ. of Miss., Miss., 1868-9	141	141	187
Baylor, Texas, "	9	9	121
Maryville, Tenn., 1869-70	80	80	50
Cumberland, " 1868-9	105	105	758
E. Tenn. Univ. "	24	24	105
E. Tenn. W. Univ. "	166	166	125
Kentucky Univ., Ky., "	1	..	..	72	78	767
Western Reserve, O., 1869-70	1	..	5	112	135	115
Oberlin, "	..	2	4	..	..	..	12	1	4	66	70	1,111
Kenyon, "	3	..	..	53	57	70
Marietta, "	..	1	1	..	..	..	..	..	..	47	49	119
Denison, "	1	..	..	1	12	18	175
Antioch, "	2	..	1	1	..	1	189	190	244
Ohio Wesleyan, "	1	..	..	87	87	417
Miami, " 1868-9	15	15	157
Baldwin, "	15	15	257
Otterbein, "	2	15	17	160
Wittenberg, "	1	..	5	69	75	161
Wabash, Ind., 1869-70	60	64	209
Simpson Centenary, "	..	1	..	..	..	..	..	3	..	14	14	190
Ind. Asbury, " 1868-9	169	169	321
Indiana, "	166	166	239
Hartsville, "	3	3	222
Union Christian, "	3	3	134
Knox, Ill., 1869-70	54	58	306
McKendree, Ill., 1869-70	..	1	..	..	..	..	1	..	2	48	48	219
Monmouth, " 1868-9	1	..	..	..	..	3	83	87	368
Ill. Wesleyan, "	20	20	240
Lombard, "	15	18	178
Quincy, "	..	1	1	..	1	..	..	..	..	11	11	334
Wheaton, "	20	20	239
Univ. of Mich., Mich., 1869-70	1	..	..	..	..	1	8	..	1	161	172	1,112
Hillsdale, "	1	..	..	..	..	..	6	..	..	40	47	521
Albion, " 1868-9	2	..	..	16	18	258
Olivet, "	23	23	264
Beloit, Wis., 1869-70	1	1	..	..	75	77	230
Lawrence, Wis., 1869-70	20	21	267
Racine, "	1	..	..	40	43	184
Ripon, "	2	..	24	25	330
Univ. of Wis., Wis., 1868-9	1	..	..	1	..	..	80	81	277
Iowa, Iowa, 1869-70	33	35	257
Griawold, Iowa, 1869-70	..	1	..	1	..	..	1	..	2	11	14	115
Iowa Wesleyan, Iowa, 1868-9	45	45	278
Whittier, "	10	10	159
Wm. Jewell, Mo., "	81	81	81
Kansas State Agr., Kan., "	15	15	170
Pacific Methodist, Cal., "	26	26	210
Wallamet, Or., "	15	15	227
Totals	293	178	201	732	106	244	1,187	324	952	5,244	9,461	27,054

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